Digital Education Global Forum 2024

Activation of Digital Transformation: Shifting the Paradigm of Education

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I. Preface

The **Digital Education Global Forum 2024** brought together experts and thought leaders from across the globe to discuss how digital transformation can reshape education. The event focused on the various challenges and opportunities of integrating technology, AI, and digital tools into education systems worldwide. The discussions spanned various themes such as teacher-driven reforms, AI in education, social-emotional learning, equity, and the digital divide.

Among the esteemed delegates were two prominent figures from Cambodia: **Mr. Ul Run**, Senior National Adviser and NGS Program Manager representing KAPE (Kampuchean Action to Promote Education), Ministry of Education, Youth and Sport, and **Ms. Meng Huyteang**, Vice-Chief of Office, Department of Planning, Ministry of Education, Youth and Sports. Both delegates played a key role in representing Cambodia's interests and contributing to discussions on how digital education can transform the country's educational landscape.

Their participation provided valuable insights into Cambodia's education system, which faces a unique set of challenges and opportunities, particularly in integrating digital tools and closing the urban-rural education gap. This report draws on the insights and recommendations presented at the Global Forum to chart a path forward for Cambodia's digital education journey.

II. Keynote Speech: Challenges of High-Tech Transformations of Education

1. Comprehensive Summary of Key Points

The keynote speech by Neil Selwyn at the 19th Digital Education Global Forum (DEGF) in 2024 explores several challenges related to the digital transformation of education. Selwyn emphasizes the need for "non-stupid optimism," which acknowledges both the promises and limitations of EdTech. He critiques the widespread excitement surrounding digital technologies in education, cautioning against over-enthusiasm while also recognizing their potential to improve education systems.

1.1 Key points:

- **EdTech Hype vs. Reality**: While technology has potential, we must be cautious about overestimating its ability to transform education. Technologies such as personalized learning systems and AI are often hyped, but their real-world implementation can be limited and inconsistent.
- **Challenges from History**: The history of educational technology (EdTech) shows that it often supports existing educational structures rather than radically transforming them. Technologies that challenge institutional norms tend to be sidelined, whereas those that reinforce traditional practices become entrenched.
- **AI's Role in Education**: AI is positioned as a transformative technology, but its current application is narrow. AI uptake has been inconsistent, and there are growing concerns about the harms it may cause, such as exacerbating social inequalities, de-professionalizing teaching, and narrowing the role of both students and teachers in the learning process.
- **Non-Stupid Optimism**: The speech advocates for a mature, informed approach to educational technology, one that learns from past mistakes and recognizes the potential benefits while remaining realistic about its limitations. The challenge lies in designing technologies that address educational issues without amplifying existing disparities.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2.1 Primary Challenges Facing Digital Education in Cambodia

- **Exacerbation of Social Inequality**: Technologies like AI tend to benefit those who are already advantaged. In Cambodia, there is a significant digital divide between urban and rural areas, and between socioeconomic groups. This means that high-tech solutions may leave behind students who do not have access to devices or stable internet connections (K1_Neil SELWYN).
- **Teacher De-professionalization**: There is a concern that AI and automated systems could reduce the role of expert teachers. In Cambodia, where teacher training is already a challenge, this could further undermine the profession (K1_Neil SELWYN).
- **Inconsistent Take-Up of Technology**: Technology adoption varies significantly depending on infrastructure, policy support, and teacher readiness. Cambodia faces a lack

of sufficient digital infrastructure, which impedes the widespread use of online learning and advanced educational technologies (K1_Neil SELWYN).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **One-Laptop-per-Child and Bring-Your-Own-Device Programs**: These initiatives have been implemented globally and may offer insights for Cambodia, especially in rural areas, by providing access to low-cost digital devices for students (K1_Neil SELWYN).
- **Personalized Learning Systems**: Adaptive learning platforms that provide individualized learning pathways could help address disparities in student learning outcomes. These systems could be used to supplement teacher-led instruction, particularly in subjects like STEM (K1_Neil SELWYN).
- **Online Learning Platforms and Open Educational Resources (OERs)**: Platforms such as MOOCs have been used to provide access to education, particularly at the higher education level. Although scaling these technologies remains a challenge, they have the potential to enhance learning in Cambodia (K1_Neil SELWYN).

2.3 How Cambodia Can Improve Its Digital Infrastructure to Support Effective Online Learning

- **Investing in Internet Connectivity**: Cambodia needs to invest in nationwide internet infrastructure, particularly in rural and underserved areas. This will allow for greater access to digital resources and online learning platforms (K1_Neil SELWYN).
- **Leveraging Public-Private Partnerships**: Collaborations between the government, telecommunications companies, and international organizations could help accelerate infrastructure development (K1_Neil SELWYN).
- **Low-Tech Solutions for Low-Income Areas**: In areas with limited connectivity, mobile-based learning and offline resources should be explored. Providing content on basic devices or through SMS-based learning systems can serve as an interim solution (K1_Neil SELWYN).

3. Recommendations for Improving Digital Education in Cambodia

3.1 Educational Policy
o **Develop a National Digital Education Policy**: Cambodia should develop a comprehensive digital education policy that outlines strategies for integrating technology into schools, with a focus on equity and inclusion. This policy should prioritize investments in infrastructure and teacher training (K1_Neil SELWYN).
o **Focus on Equity**: Digital transformation should prioritize underserved communities. Specific initiatives to bridge the urban-rural divide and ensure all students have access to digital tools are critical (K1_Neil SELWYN).
3.2 Teacher Training
o **Comprehensive Training on Digital Pedagogies**: Teachers need support to adopt digital tools in their classrooms effectively. The government should provide professional development on integrating technology into teaching, especially for AI and personalized learning systems (K1_Neil SELWYN).

- **Incentives for Digital Proficiency**: Offering incentives, such as certifications in EdTech or digital literacy, could encourage teachers to embrace technology. This would help professionalize teaching while addressing concerns of de-professionalization (K1_Neil SELWYN).

3.3 Student Access to Technology
- **Expand Device Distribution Programs**: Cambodia should scale up initiatives that provide students with access to digital devices, such as tablets or laptops, particularly in rural areas (K1_Neil SELWYN).
- **Affordable Internet Access**: Partner with telecom providers to offer subsidized or free internet packages for students in low-income households (K1_Neil SELWYN).

3.4 Curriculum Development
- **Integrate Digital Literacy Across Subjects**: Digital literacy should be a core component of the Cambodian curriculum across all grade levels. This includes basic computer skills, internet safety, and critical thinking about technology (K1_Neil SELWYN).
- **AI and Data Literacy**: As AI becomes increasingly integrated into education, students must be educated on the ethical, social, and technical aspects of AI (K1_Neil SELWYN).

3.5 Assessment Methods
- **Digital Assessment Tools**: Develop online assessment platforms that allow for formative and summative assessments to be conducted digitally. This would streamline testing and provide real-time feedback (K1_Neil SELWYN).
- **Data-Driven Decision-Making**: Use data analytics to track student progress and tailor instruction to individual needs, especially in blended or hybrid learning environments (K1_Neil SELWYN).

III. Session 1: AI Transformation: Driving New Ground in Education

1. Comprehensive Summary of Key Points from Each Presentation:

1.1 Sunbin Kim (Ministry of Education, Republic of Korea): Classroom Revolution Led by Teachers with AI

Main Arguments:
Sunbin Kim emphasizes a dual approach to classroom transformation through both "High-Touch" (teacher-led) and "High-Tech" (AI-driven) methods. Teachers act as coaches and mentors, fostering critical and creative thinking, while AI-based digital textbooks deliver basic knowledge and support cognitive skills. AI complements teachers, offering personalized learning pathways, and assisting with administrative tasks like lesson planning, assessments, and reflections. The Ministry of Education aims to support school-level transformation by training 300,000 teachers and conducting school consulting for 12,000 schools by 2028.

Evidence Presented:
The presentation discusses a strategy for the development of AI digital textbooks and the promotion of a sustainable EdTech ecosystem through various educational innovations. There is a clear roadmap for professional development, emphasizing teacher empowerment and the establishment of learning communities to drive continuous innovation (S1P1_Sunbin KIM_Ministr…).

Conclusions:
A well-designed combination of teacher guidance and AI technology can effectively drive educational transformation. The approach relies on rigorous teacher training and the implementation of digital resources that support both teachers and students.

1.2 Seiji Isotani (University of São Paulo, Brazil): AI in Education and Public Policy - A Case from Brazil

Main Arguments:
Seiji Isotani presents Brazil's experience with AI in education, specifically focusing on the challenges of using AI in resource-constrained environments. The presentation highlights that while AI can support personalized learning, it risks exacerbating inequalities if infrastructure is insufficient. The solution proposed, "AIED Unplugged," advocates for designing AI systems that can work even in environments with limited access to technology. This approach ensures AI can be adapted to low-income areas, using readily available tools like mobile phones to support education.

Evidence Presented:
The presentation references initiatives like AIED (Artificial Intelligence in Education), which uses AI to enhance motivation, provide feedback, and automate learning tasks. The initiative has

reached over 500,000 students and 20,000 teachers across Brazil, demonstrating the scalability of low-cost AI solutions (S1P2_Seiji ISOTANI).

Conclusions:
While AI has the potential to transform education, its benefits must be made accessible to all, particularly in resource-limited settings. Brazil's case demonstrates that with the right approach, AI can reduce educational inequality, but it requires a thoughtful and localized design to be effective.

1.3 Allison Littlejohn (University College London): (Re) Humanising the Learning Experience

Main Arguments:
Littlejohn's presentation addresses the need to balance the relationships between AI and humans in the education process. She explores how AI changes learning through tasks like personalized content delivery and class-based analytics but also introduces vulnerabilities, such as concerns over professional identity and fear of losing control. There is a call for co-design strategies, where teachers, learners, and AI developers collaborate to ensure AI supports rather than disrupts learning environments.

Evidence Presented:
Littlejohn discusses AI applications that support literacy and numeracy learning, such as the "Navigo" game for literacy and "FractionsLab" for numeracy. Both systems use AI to create personalized learning experiences that adapt to student performance (S1P3_Allison LITTLEJOHN).

Conclusions:
AI's role in education should focus on enhancing human interaction rather than replacing it. Collaboration between stakeholders is critical in shaping AI systems that improve educational outcomes while addressing fears and vulnerabilities.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2. 1 Primary Challenges Facing Digital Education in Cambodia

- **Infrastructure Limitations**: Like Brazil, Cambodia faces significant digital infrastructure challenges, particularly in rural areas, where access to high-speed internet and digital devices is limited (S1P2_Seiji ISOTANI)(K1_Neil SELWYN).
- **Teacher Preparedness**: Cambodia, like other countries, struggles with the need to train teachers to effectively integrate AI and digital tools into their classrooms. Professional development is essential to ensure that technology does not exacerbate existing educational inequalities (S1P1_Sunbin KIM_Ministr…) (K1_Neil SELWYN).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **AI Digital Textbooks**: As seen in Korea, AI digital textbooks can supplement teacher-led instruction, offering personalized learning experiences while freeing teachers to focus on higher-order skills (S1P1_Sunbin KIM_Ministr…).
- **AIED Unplugged**: Brazil's "AIED Unplugged" model could serve as a blueprint for Cambodia by providing AI-driven educational tools that function in low-resource settings, allowing for gradual digital transformation (S1P2_Seiji ISOTANI).

2.3 How Can Cambodia Improve Its Digital Infrastructure to Support Effective Online Learning?

- **Mobile-Based Learning Solutions**: Given the high mobile phone penetration in even low-resource settings, Cambodia could develop AI learning applications that work on mobile platforms (S1P2_Seiji ISOTANI).
- **Partnerships for Infrastructure Development**: Public-private partnerships, similar to those seen in Korea and Brazil, could accelerate the deployment of digital infrastructure (S1P1_Sunbin KIM_Ministr…) (S1P2_Seiji ISOTANI).

3. Comparison of Approaches in the Different Presentations:

The approaches presented in the presentations from Korea, Brazil, and the UK highlight different strategies for integrating AI into education. While Korea emphasizes a dual teacher-AI approach for mainstream education, Brazil focuses on solutions for underserved populations, and the UK advocates for careful co-design to balance AI's impact on human interaction.

Similarities:

- **Personalization of Learning**: All approaches stress the importance of AI in delivering personalized learning experiences (S1P1_Sunbin KIM_Ministr…) (S1P2_Seiji ISOTANI) (S1P3_Allison LITTLEJOHN).
- **Teacher Support**: Both Korea and the UK emphasize that AI should augment, not replace, teachers. This theme is also present in Brazil's approach, where AI supplements teacher efforts in low-resource settings (S1P1_Sunbin KIM_Ministr…) (S1P3_Allison LITTLEJOHN).

Differences:

- **Infrastructure Focus**: Brazil's focus on overcoming infrastructure challenges is distinct from Korea's more technology-rich environment, reflecting different national contexts (S1P2_Seiji ISOTANI).
- **Human-AI Relationship**: The UK presentation delves deeper into the ethical and emotional dimensions of the human-AI relationship, while Korea and Brazil focus more on practical and policy-driven approaches (S1P3_Allison LITTLEJOHN).

4. Recommendations for Improving Digital Education in Cambodia

4.1 Educational Policy:

- Cambodia should establish a national AI education policy that emphasizes equitable access to technology, drawing from Brazil's AIED Unplugged model (S1P2_Seiji ISOTANI).

4.2 Teacher Training:

- o Large-scale teacher training initiatives, similar to Korea's strategy, should be prioritized to ensure teachers are equipped to integrate AI into their classrooms (S1P1_Sunbin KIM_Ministr…).

4.3 Student Access to Technology:

- o Mobile-based AI learning solutions should be developed to increase access to education in rural areas, as mobile phones are widely available even in low-income communities (S1P2_Seiji ISOTANI).

4.4 Curriculum Development:

- o The curriculum should integrate AI and digital literacy skills at all levels, incorporating both "High-Touch" and "High-Tech" elements, similar to the Korean model (S1P1_Sunbin KIM_Ministr…).

4.5 Assessment Methods:

- o AI-driven assessments can provide real-time feedback, as demonstrated in both Brazil and Korea. These systems should be adapted to the Cambodian context to track student progress and inform teaching strategies (S1P2_Seiji ISOTANI) (S1P1_Sunbin KIM_Ministr…).

IV. Session 2: Empowering Learners to Lead Change

1. Comprehensive Summary of Key Points from Each Presentation:

1.1 Andrew Sliwinski (LEGO Education): How Loud is Your Classroom?

Main Arguments:
Andrew Sliwinski focuses on creating engaging, hands-on learning environments through LEGO Education. The emphasis is on increasing student agency, fostering critical thinking, creativity, and collaboration. He advocates for using AI to empower learners, encouraging them to interact with technology creatively and safely, rather than using it for traditional or outdated approaches.

Evidence Presented:
The presentation cites studies showing that students who have agency in their learning tend to be more motivated and engaged. The use of interactive learning tools, such as Scratch and LEGO, is highlighted as a way to allow students to experiment and learn with AI safely (S2P1_Andrew SLWINSKI).

Conclusions:
AI can enhance student engagement and agency when used creatively. Teachers should focus on promoting hands-on learning experiences that encourage exploration and innovation.

1.2 Hyungu Kim (CNU Research Professor): Creating a Resilient Classroom by SEL (Social Emotional Learning)

Main Arguments:
Hyungu Kim emphasizes the importance of Social Emotional Learning (SEL) in creating resilient classrooms. SEL helps students develop essential life skills like empathy, self-awareness, and responsible decision-making, which are critical for both academic and personal success. SEL also supports the mental health of both students and teachers, helping to mitigate the effects of stress and burnout.

Evidence Presented:
The presentation draws on numerous studies showing that SEL programs can significantly improve student outcomes, including academic performance, mental health, and school climate. SEL is also tied to long-term benefits in skills development and emotional regulation (S2P2_Hyungu KIM_Creatin…).

Conclusions:
SEL should be integrated into school curricula at all levels. By focusing on resilience and emotional intelligence, SEL can help students navigate both academic challenges and personal growth, while also supporting teacher well-being.

1.3 Shuchi Grover (Looking Glass Ventures): Nurturing the Next Generation of Problem Solvers: Developing New Competencies in the Age of AI

Main Arguments:
Shuchi Grover highlights the need to develop computational literacy and critical thinking skills in an AI-driven world. She argues that traditional computational thinking (CT) must evolve to include data literacy and AI literacy. Students should not only learn to code but also develop a deeper understanding of how AI works, its ethical implications, and how to use it responsibly in solving real-world problems.

Evidence Presented:
Grover discusses the importance of integrating computational literacy into broader educational contexts, combining STEM and non-STEM disciplines. She also emphasizes the role of project-based learning and interdisciplinary teaching methods to make computing relevant and engaging for all learners (S2P3_Shuchi GROVER).

Conclusions:
Educators should focus on building students' data and AI literacy, preparing them to be critical thinkers and problem solvers. This includes ethical considerations in AI, making it relevant across subjects and engaging for a diverse range of students.

1.4 Hyojin Jun (Dongil Elementary School): Empowering Learners to Lead Change: Student Agency Through Blended Learning & Digital Literacy

Main Arguments:
Hyojin Jun discusses the importance of student agency in blended learning environments. By giving students voice, choice, and ownership in their learning process, blended learning can foster a more personalized and engaging experience. Digital literacy plays a key role in this process, as it equips students with the tools they need to communicate, solve problems, and take control of their education.

Evidence Presented:
The presentation provides examples of how students can be empowered to make choices in their learning through both online and offline activities. This approach enables students to practice digital skills while engaging in collaborative and independent learning (S2P4_Hyojin JUN_).

Conclusions:
Blended learning, combined with digital literacy education, can foster greater student agency, engagement, and ownership of learning. This approach encourages students to be active participants in their education, preparing them for the digital age.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education/Essential Skills in Cambodia

2.1 Primary Challenges Facing Digital/Essential Skills Education in Cambodia

- **Digital Literacy Gaps**: As seen in both Grover's and Jun's presentations, digital literacy is crucial for empowering students to engage with AI and blended learning environments. Cambodia faces a significant digital literacy gap, particularly in rural areas (S2P3_Shuchi GROVER)(S2P4_Hyojin JUN_).
- **Teacher Burnout and SEL Deficiency**: SEL, as discussed by Hyungu Kim, is underdeveloped in many education systems, including Cambodia. Teacher burnout and a lack of emotional support for students can hinder the effectiveness of digital education (S2P2_Hyungu KIM_Creatin…).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **LEGO Education Tools**: As demonstrated by Sliwinski, hands-on tools like LEGO can promote engagement and agency in learning, which could be beneficial in Cambodian classrooms where digital resources are scarce (S2P1_Andrew SLWINSKI).
- **SEL Programs**: SEL programs that focus on emotional intelligence and resilience can help improve both academic and personal outcomes for Cambodian students, as outlined by Kim (S2P2_Hyungu KIM_Creatin…).
- **AI and Data Literacy Education**: Grover's emphasis on data and AI literacy could be applied in Cambodia to better prepare students for a digital future, even with limited resources (S2P3_Shuchi GROVER).

2.3 How Can Cambodia Improve Its Digital Infrastructure/Social-Emotional Learning to Support Effective Online Learning?

- **Invest in SEL Programs**: Cambodia should incorporate SEL into its national curriculum to support the mental health and emotional development of students and teachers (S2P2_Hyungu KIM_Creatin…).
- **Leverage Mobile-Based Learning**: Since Cambodia faces infrastructure limitations, adopting mobile-first learning solutions, as advocated in other settings like Brazil, can provide wider access to digital resources (S2P1_Andrew SLWINSKI) (S1P2_Seiji ISOTANI).

3. Comparison of Approaches in the Different Presentations

The strategies discussed in these presentations emphasize empowering learners through agency, resilience, and digital literacy. There is a common theme of focusing on non-cognitive competencies—such as emotional intelligence (Kim), problem-solving skills (Grover), and student choice (Jun)—in digital education.

Similarities:

- **Student Agency**: All presentations stress the importance of giving students more control over their learning, whether through hands-on tools like LEGO (Sliwinski) or digital literacy (Jun) (S2P1_Andrew SLWINSKI) (S2P4_Hyojin JUN_).

- **Holistic Education**: The role of SEL and emotional resilience is highlighted as essential to preparing students for future challenges, echoing both Kim's and Grover's points on the importance of social-emotional and computational skills (S2P2_Hyungu KIM_Creatin…) (S2P3_Shuchi GROVER).

Differences:

- **Focus on Digital Literacy**: While all agree on the importance of digital education, Grover places a stronger emphasis on AI and data literacy, whereas Kim focuses more on SEL and resilience (S2P2_Hyungu KIM_Creatin…) (S2P3_Shuchi GROVER).
- **Technological Integration**: Sliwinski advocates for hands-on, interactive learning environments that integrate technology into the classroom experience, while Grover emphasizes interdisciplinary project-based learning that builds computational and problem-solving skills (S2P1_Andrew SLWINSKI) (S2P3_Shuchi GROVER).

4. Recommendations for Improving Digital/Essential Skills Education in Cambodia

4.1 Educational Policy:

- Cambodia should adopt a national digital literacy policy that integrates computational thinking, AI, and data literacy across all educational levels (S2P3_Shuchi GROVER).

4.2 Teacher Training:
- Teachers need training in both SEL and digital literacy. SEL training, as outlined by Kim, can help address teacher burnout, while computational literacy workshops can prepare teachers for integrating AI into the classroom (S2P2_Hyungu KIM_Creatin…) (S2P3_Shuchi GROVER).

4.3 Student Access to Technology:
- Introduce affordable, mobile-based learning tools to expand access to digital resources. Simple, engaging platforms like LEGO Education or Scratch can offer low-cost entry points into digital learning (S2P1_Andrew SLWINSKI)(S1P2_Seiji ISOTANI).

4.4 Curriculum Development:
- Incorporate SEL into the core curriculum to foster emotional resilience and empathy, alongside computational literacy to ensure students are prepared for the digital economy (S2P2_Hyungu KIM_Creatin…) (S2P3_Shuchi GROVER).

4.5 Assessment Methods:
- Move towards project-based and formative assessments, which can evaluate both cognitive and non-cognitive skills. Grover's emphasis on problem-solving and interdisciplinary learning could serve as a model for assessment in Cambodia (S2P3_Shuchi GROVER).

V. Keynote Speech: EdTech for All: Promoting Equity and Access in Mongolia's Education System"

1. Comprehensive Summary of Key Points

Main Arguments:
Batjargal Khandjav, State Secretary of Mongolia's Ministry of Education, discussed the importance of using EdTech to promote equity and access in the country's education system, particularly for underserved communities. The speech focused on bridging the gap between urban and rural education, highlighting the Ministry's efforts to digitalize educational content and enhance learning outcomes through technology.

Evidence Presented:

- **Urban-Rural Education Gap**: Khandjav presented data comparing the mathematics performance of students from different socio-economic backgrounds across urban (city) and rural (aimag and soum) areas. The data indicated disparities in educational outcomes, with rural students generally underperforming compared to their urban counterparts (K2_Batjargal KHANDJAV).
- **Teacher Support**: Teachers in Mongolia are no longer seen as mere instructors but as coaches. The Ministry has implemented hybrid teaching models, and teachers are encouraged to use technology to offer more engaging, interactive content. Teachers have been given training, including certification programs in collaboration with Google (K2_Batjargal KHANDJAV).
- **Digitalized Curriculum**: Up to 86% of Mongolia's curriculum content has been digitalized and made available on open platforms. This approach is intended to provide greater access to quality educational resources, particularly for students in remote areas (K2_Batjargal KHANDJAV).
- **Improved Learning Outcomes**: Student evaluations showed a significant improvement of up to 13% in mathematics and English, attributed to the effective use of digital tools and content (K2_Batjargal KHANDJAV).

Conclusions:
Mongolia's digital education efforts have led to notable improvements in student outcomes, especially in math and English. The Ministry's focus on teacher training and the digitalization of the curriculum has helped bridge the gap between urban and rural education, although challenges remain in fully equalizing access to technology and resources.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2.1 Primary Challenges Facing Digital Education in Cambodia

- **Infrastructure Gaps**: Similar to Mongolia, Cambodia faces significant challenges in ensuring equitable access to digital education, particularly in rural areas where internet access and technology infrastructure are lacking (K2_Batjargal KHANDJAV).
- **Teacher Training**: Like Mongolia, Cambodia struggles with adequately preparing teachers to integrate technology into their classrooms. Teacher readiness is critical for the success of digital education (K2_Batjargal KHANDJAV).
- **Limited Digital Content**: While Mongolia has made substantial progress in digitalizing its curriculum, Cambodia has not yet achieved this level of content availability. Without digital content, students have limited access to modern learning resources (K2_Batjargal KHANDJAV).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **Digitalizing Educational Content**: Mongolia has digitalized 86% of its curriculum and made it accessible via open platforms, providing a model that Cambodia could follow to make learning more accessible in rural areas (K2_Batjargal KHANDJAV).
- **Teacher Certification Programs**: Mongolia's partnership with Google to train teachers in using digital tools and techniques could serve as a model for Cambodia to improve teacher competency in EdTech (K2_Batjargal KHANDJAV).

2.3 How Can Cambodia Improve Its Digital Infrastructure to Support Effective Online Learning?

- **Public-Private Partnerships**: Cambodia can follow Mongolia's example by partnering with global technology companies, such as Google, to build infrastructure and train teachers (K2_Batjargal KHANDJAV).
- **Mobile-Based Learning Solutions**: Given the challenges in providing internet access in rural areas, mobile-based learning solutions that work offline or in low-bandwidth environments could be an effective strategy (K2_Batjargal KHANDJAV).

3. Recommendations for Improving Digital Education in Cambodia

3.1 Educational Policy:

- o **Develop a National Digital Education Strategy**: Cambodia should adopt a strategy that promotes the digitalization of the curriculum, similar to Mongolia's 86% digitalized content. This would ensure that students across the country have equal access to high-quality educational resources (K2_Batjargal KHANDJAV).
- o **Focus on Equity**: Policies should prioritize reducing the urban-rural divide, ensuring that all students, regardless of location, have access to the necessary technology and learning platforms (K2_Batjargal KHANDJAV).

3.2 Teacher Training:

- o **Expand Teacher Training and Certification**: Cambodia should implement large-scale teacher training programs focused on the effective use of technology in the classroom.

Mongolia's collaboration with Google to certify 1,000 teachers offers a potential framework for Cambodia to replicate (K2_Batjargal KHANDJAV).

3.3 Student Access to Technology:
- o **Provide Low-Cost Devices**: Efforts should be made to ensure that students, especially those in rural areas, have access to affordable digital devices. Partnerships with technology companies can help subsidize these costs (K2_Batjargal KHANDJAV).
- o **Enhance Internet Connectivity**: Investment in expanding internet access, particularly in rural and remote areas, is crucial for supporting digital learning. Cambodia can draw from Mongolia's success in promoting open-access digital content (K2_Batjargal KHANDJAV).

3.4 Curriculum Development:
- o **Digitalize Core Subjects**: Cambodia should prioritize the digitalization of core subjects such as math, science, and English. This would help ensure that students have access to interactive and engaging learning materials, which can improve learning outcomes (K2_Batjargal KHANDJAV).
- o **Culturally Relevant Content**: While digitalizing the curriculum, it is important to ensure that content is localized and culturally relevant to Cambodian students, similar to Mongolia's approach (K2_Batjargal KHANDJAV).

3.4 Assessment Methods:
- o **Utilize Digital Assessments**: The use of digital assessments, as seen in Mongolia's efforts to improve student outcomes in math and English, can provide real-time feedback and track student progress more effectively. Cambodia should adopt digital assessment tools to complement its evolving digital curriculum (K2_Batjargal KHANDJAV).

VI. Session 3: Integrating EdTech in Public Education: Sustained Impact and Long-Term Outcomes

1. Comprehensive Summary of Key Points from Each Presentation:

1.1 Elfrina Li Cruz (Ministry of Education, Timor-Leste): Digital Innovation in Timor-Leste

Main Arguments:
Elfrina Li Cruz discussed the transformative efforts of the Ministry of Education in Timor-Leste to integrate digital innovation into public education. The focus was on leveraging the Education Management Information System (EMIS) to improve data collection and management, teacher training, and the overall quality of education. The strategy aligns with Timor-Leste's 10-year ICT strategic plan, emphasizing the use of digital tools to support government services, including education.

Evidence Presented:
Timor-Leste has expanded the use of tablets for classroom monitoring and teacher evaluations, and has begun training teachers in digital literacy. The digital transformation is supported by a comprehensive ICT plan (2022-2032), though challenges remain, particularly in infrastructure and internet connectivity (S3P1_Elfrina Li CRUZ_MO…).

Conclusions:
Digital innovation, especially through data management systems like EMIS, can improve decision-making, teacher training, and educational quality. However, significant investments are still needed to ensure that the infrastructure and digital resources reach rural areas.

1.2 Ahreum Hong (Kyung Hee University): Empowering Human Development through AI Literacy and EdTech Innovation

Main Arguments:
Ahreum Hong emphasized the importance of AI literacy in empowering human development. The presentation highlighted how EdTech can democratize access to AI knowledge, particularly through platforms that offer personalized learning, gamification, and AI-driven tutors. AI literacy, including critical thinking and ethical AI use, is essential to prepare students for the future of work and to bridge the digital divide.

Evidence Presented:
The presentation referenced initiatives like Finland's "AI for Everyone" program, which promotes widespread AI education. Hong also discussed the importance of EdTech in scaling education, providing personalized learning, and improving student outcomes (S3P2_Ahreum HONG_Empowe…).

Conclusions:
AI literacy should be integrated into the education system to prepare students for a tech-driven

future. Collaboration between governments, educational institutions, and tech companies is crucial to support this integration. However, challenges like accessibility, the digital divide, and ethics must be addressed to ensure equitable AI education.

1.3 Shambel Yilma Arega (Ethiopian Artificial Intelligence Institute): Harnessing AI for Digital Education: Ethiopia's Path to Innovation and Inclusivity

Main Arguments:
Shambel Yilma Arega highlighted Ethiopia's efforts to harness AI and digital technologies to transform its education system. The presentation focused on Ethiopia's national strategies for digital education, including initiatives like SchoolNet, which provides free educational resources to students, parents, and educators. Ethiopia's digital transformation is seen as critical for economic growth, equitable access to education, and bridging the rural-urban divide.

Evidence Presented:
The Ethiopian government has launched several projects to improve digital infrastructure, such as expanding internet connectivity, introducing digital ID systems, and implementing cybersecurity frameworks. Ethiopia's "Digital Strategy 2025" sets a roadmap for long-term educational transformation (S3P3_Shambel Yilma AREG…).

Conclusions:
Ethiopia's digital transformation strategy provides a comprehensive framework for improving access to education through AI and digital tools. However, the country faces significant challenges in terms of infrastructure, digital literacy, and equitable access, particularly in rural areas.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2.1 Primary Challenges Facing Digital Education in Cambodia

- **Infrastructure Gaps**: Similar to Ethiopia and Timor-Leste, Cambodia faces challenges in digital infrastructure, particularly in rural areas where internet access is limited (S3P1_Elfrina Li CRUZ_MO…) (S3P3_Shambel Yilma AREG…).
- **Teacher Training**: Both Timor-Leste and Ethiopia emphasize the need for teacher training in digital literacy and technology use. This is a similar challenge in Cambodia, where teachers need support to integrate technology into classrooms (S3P1_Elfrina Li CRUZ_MO…) (S3P3_Shambel Yilma AREG…).
- **Digital Literacy**: The need to build digital and AI literacy is a common theme, as discussed in Ahreum Hong's presentation. Cambodia faces similar challenges in ensuring that students and teachers have the necessary digital skills to thrive in a tech-driven world (S3P2_Ahreum HONG_Empowe…).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **AI Literacy Initiatives**: Ethiopia's SchoolNet and AI integration programs, as well as AI literacy initiatives in other countries like Finland, offer valuable insights for Cambodia to improve digital education (S3P2_Ahreum HONG_Empowe…) (S3P3_Shambel Yilma AREG…).
- **Teacher Training Programs**: Timor-Leste's use of tablets for teacher evaluations and Ethiopia's focus on digital literacy for educators provide strategies that Cambodia could adopt to support teacher development (S3P1_Elfrina Li CRUZ_MO…) (S3P3_Shambel Yilma AREG…).

2.3 How Can Cambodia Improve Its Digital Infrastructure to Support Effective Online Learning?

- **Invest in Internet Connectivity**: Cambodia can follow Ethiopia's example by investing in infrastructure projects to improve internet connectivity, particularly in rural areas (S3P3_Shambel Yilma AREG…).
- **Expand Digital Literacy Programs**: AI literacy programs, as discussed by Ahreum Hong, should be integrated into the national curriculum to prepare students for the future job market and promote equitable access to technology (S3P2_Ahreum HONG_Empowe…).
- **Public-Private Partnerships**: Collaborating with technology companies, as seen in Ethiopia and Timor-Leste, can help Cambodia develop its digital infrastructure and provide affordable devices and internet services (S3P1_Elfrina Li CRUZ_MO…) (S3P3_Shambel Yilma AREG…).

3. Comparison of Approaches in the Different Presentations

The strategies outlined by Timor-Leste, Ethiopia, and Ahreum Hong's presentation on AI literacy provide valuable insights for Cambodia.

Similarities:

- **Focus on Infrastructure and Teacher Training**: All three presentations emphasize the importance of improving digital infrastructure and providing teacher training to support the integration of technology in education (S3P1_Elfrina Li CRUZ_MO…) (S3P2_Ahreum HONG_Empowe…) (S3P3_Shambel Yilma AREG…).
- **Emphasis on Digital Literacy**: Whether through AI literacy (Hong) or broader digital education (Ethiopia, Timor-Leste), all approaches stress the need for students and teachers to develop strong digital skills (S3P1_Elfrina Li CRUZ_MO…)(S3P2_Ahreum HONG_Empowe…) (S3P3_Shambel Yilma AREG…).

Differences:

- **AI Literacy**: Ahreum Hong's presentation places a much stronger emphasis on AI literacy as a critical component of future education, whereas Ethiopia and Timor-Leste focus more on basic digital infrastructure and literacy (S3P2_Ahreum HONG_Empowe…)(S3P3_Shambel Yilma AREG…).

- **Data Management Systems**: Timor-Leste's focus on EMIS provides a unique approach to improving educational management through technology, which is not as emphasized in the other presentations (S3P1_Elfrina Li CRUZ_MO…).

4. Recommendations for Improving Digital Education in Cambodia
4.1 Educational Policy:

- o **Develop a National Digital Education Strategy**: Cambodia should adopt a strategy that prioritizes digital literacy and AI education, drawing from Ethiopia's digital transformation plans (S3P3_Shambel Yilma AREG…).
- o **Focus on Equity**: Policies should ensure that rural and underserved communities have access to the same digital resources as urban areas (S3P3_Shambel Yilma AREG…).

4.2 Teacher Training:
- o **Expand Digital Literacy Training**: Large-scale teacher training programs, similar to those in Ethiopia should be implemented to ensure that educators are equipped to integrate technology effectively into their teaching (S3P3_Shambel Yilma AREG…).

4.3 Student Access to Technology:
- o **Increase Access to Digital Devices**: Like Ethiopia, Cambodia could partner with international organizations and tech companies to provide affordable digital devices and internet access to students, particularly in rural areas (S3P3_Shambel Yilma AREG…).

4.4 Curriculum Development:
- o **Integrate AI Literacy**: Cambodia should follow the model of Finland's "AI for Everyone" initiative, as discussed by Ahreum Hong, to incorporate AI literacy into its curriculum and prepare students for the future job market (S3P2_Ahreum HONG_Empowe…).
- o **Expand Digital Content**: Cambodia should continue digitalizing its curriculum, similar to Ethiopia's efforts, to ensure that students have access to modern, interactive learning materials (S3P3_Shambel Yilma AREG…).

4.5 Assessment Methods:
- o **Utilize Digital Assessments**: Digital assessment tools can provide real-time feedback and support personalized learning, similar to the AI-driven assessments mentioned by Ahreum Hong (S3P2_Ahreum HONG_Empowe…).

VII. Session 4: Teacher-Driven Revolutions in the Classroom

1. Comprehensive Summary of Key Points from Each Presentation

1.1 Rhona Sharpe (University of Oxford): Designing CPD for Educational Reform

Main Arguments:
Rhona Sharpe emphasizes the importance of professional development (CPD) in driving educational reform. She advocates for a collaborative approach to CPD that encourages teachers to engage in the collective creation of transformative curricula. Digital literacy and innovative assessment methods are highlighted as key areas where CPD can play a transformative role.

Evidence Presented:
Sharpe discusses examples such as embedding digital literacy into the curriculum and redesigning summative assessments to make them more inclusive. The approach includes self-assessment, peer collaboration, and a structured process for redesigning courses and assessments (S4P1_Rhona SHARPE_Desig…).

Conclusions:
CPD must focus on creating collective, transformative changes within educational systems. For digital education to be effective, teachers need ongoing, collaborative support to integrate technology and develop new assessment methods.

1.2 Cheolil Lim (Seoul National University): Developing Teachers' Digital Competencies: A Korean Policy

Main Arguments:
Cheolil Lim presents the AIEDAP (AI Education and Digital Competency Advancement Program), a national initiative in Korea to enhance teachers' digital competencies. Lim emphasizes that continuous professional development (CPD) and teacher agency are critical in adapting to digital transformation.

Evidence Presented:
The presentation highlights how the Korean Ministry of Education has introduced AI digital textbooks and established a cascade training system where master teachers train other teachers in AI integration. Lim also discusses the creation of professional learning communities (PLCs) to foster collaboration among educators (S4P2_Cheolil LIM_AIEDAP…).

Conclusions:
To effectively implement digital education, teachers must be supported with a scalable, ongoing CPD system that emphasizes AI literacy and digital competency. Collaborative governance and PLCs are essential in ensuring sustained professional growth and educational innovation.

1.2 Jonghwi Park (United Nations University): Rethinking Education in the Era of GenAI: Teachers' Dilemma

Main Arguments:
Jonghwi Park addresses the dilemmas teachers face in integrating AI into education, including whether and how to use technology in the classroom. Park emphasizes that technology alone does not improve learning outcomes unless it is used effectively. Teachers must be empowered to design AI-driven tools and methodologies that complement their teaching.

Evidence Presented:
The presentation cites research showing that student-led technologies, without teacher involvement, tend to lead to poorer outcomes. Park highlights initiatives in Singapore where AI tools are co-developed with teachers to enhance learning (S4P3_Jonghwi PARK_AI te…).

Conclusions:
The success of AI in education depends on how it is integrated. Teachers must remain central to the design and use of AI tools, ensuring that technology supports rather than replaces pedagogical practices.

1.3 Hyeran Park: Teachers' Roles in the Post-Digital Transformation Era

Main Arguments:
Hyeran Park explores how teachers' roles have evolved in the post-digital transformation era. Teachers are now facilitators, curators, and mentors who must balance the use of technology with human interaction. Continuous professional development (CPD) is vital to help teachers adapt to these new roles.

Evidence Presented:
The presentation emphasizes that teachers need to facilitate personalized learning and promote critical thinking. Park also discusses the challenges of ensuring that CPD is equitable and accessible, especially in digital environments (S4P4_Hyeran PARK_Teache…).

Conclusions:
Teachers are essential to the success of digital education, and their roles must be supported through CPD that considers both technology and human interaction. The future of education lies in the balance between digital tools and the nurturing of human connections in the classroom.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2.1 Primary Challenges Facing Digital Education/CPD/PLC/Teacher Agency in Cambodia

- **Lack of Scalable CPD Programs**: As seen in Korea's AIEDAP project, one of the main challenges in Cambodia is the absence of scalable, continuous professional development

(CPD) programs to support teacher agency and digital competencies (S4P2_Cheolil LIM_AIEDAP…).

- **Equity in Access to Digital Tools**: The digital divide, especially in rural areas, limits access to digital tools and CPD opportunities. This is a common challenge in many developing nations (S4P4_Hyeran PARK_Teache…).
- **Teacher Readiness for AI Integration**: Like many other countries, Cambodia faces the challenge of preparing teachers to effectively integrate AI and other advanced technologies into their classrooms (S4P3_Jonghwi PARK_AI te…).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **AI Digital Textbooks and Training Programs**: Korea's AIEDAP project offers a model for introducing AI digital textbooks and providing teachers with AI-specific training programs (S4P2_Cheolil LIM_AIEDAP…).
- **Collaborative Governance and PLCs**: Professional learning communities (PLCs), as used in Korea, offer a collaborative model for teachers to share knowledge and develop AI-driven teaching methods (S4P2_Cheolil LIM_AIEDAP…).

2.3 How Can Cambodia Improve Its Digital Infrastructure to Support Effective Online Learning?

- **Invest in Internet Connectivity**: Similar to other nations like Timor-Leste, Cambodia needs to invest in infrastructure improvements to ensure that all schools have reliable internet access (S3P1_Elfrina Li CRUZ_MO…).
- **Create Teacher Training Hubs**: Cambodia could follow Korea's model of using master teachers to train others through regional hubs, ensuring that digital literacy and AI competencies are spread across the country (S4P2_Cheolil LIM_AIEDAP…).

3. Comparison of Approaches in the Different Presentations

Similarities:

- **Teacher-Centric Approaches**: All presentations emphasize the central role of teachers in integrating technology and driving educational reform, whether through AI tools (Korea), digital CPD (Oxford), or balancing AI and human interaction (Singapore) (S4P1_Rhona SHARPE_Desig…) (S4P2_Cheolil LIM_AIEDAP…) (S4P3_Jonghwi PARK_AI te…).
- **Continuous Professional Development (CPD)**: There is a consensus that CPD must be ongoing, scalable, and focused on collaboration among teachers, as seen in both Korea and Oxford's CPD models (S4P1_Rhona SHARPE_Desig…) (S4P2_Cheolil LIM_AIEDAP…).

Differences:

- **Focus on AI Integration**: Korea's AIEDAP project places a strong emphasis on AI integration and AI literacy, while Oxford's CPD programs focus more on general

educational reform and digital literacy (S4P1_Rhona SHARPE_Desig…) (S4P2_Cheolil LIM_AIEDAP…).

- **Teacher Involvement in Tool Design**: Jonghwi Park's presentation highlights the importance of involving teachers in the design of AI tools, a focus less prominent in other presentations (S4P3_Jonghwi PARK_AI te…).

4. Recommendations for Improving Digital Education in Cambodia
4.1 Educational Policy:

  o **Develop a National AI Education Strategy**: Cambodia should create a policy framework for integrating AI into education, similar to Korea's AIEDAP project. This strategy should focus on both teacher training and student access to AI-driven learning tools (S4P2_Cheolil LIM_AIEDAP…).
  o **Promote Equity in Access**: Ensure that digital education policies prioritize equitable access to technology and CPD opportunities, particularly for rural schools (S4P4_Hyeran PARK_Teache…).

4.2 Teacher Training:
  o **Create Master Teacher Programs**: Cambodia could implement a cascade training system where master teachers are trained in AI and digital competencies, and then support other teachers through PLCs (S4P2_Cheolil LIM_AIEDAP…).
  o **Incorporate AI Literacy into CPD**: CPD programs should include AI literacy training to ensure that teachers are prepared to use AI effectively in the classroom (S4P2_Cheolil LIM_AIEDAP…).

4.3 Student Access to Technology:
  o **Increase Access to Devices**: Similar to initiatives in Korea, Cambodia could partner with international organizations to provide affordable digital devices to students, ensuring that all learners have access to digital tools (S4P2_Cheolil LIM_AIEDAP…).

4.4 Curriculum Development:
  o **Integrate AI and Digital Literacy**: The curriculum should be updated to include AI literacy and computational thinking, preparing students for future careers in a digital world (S4P2_Cheolil LIM_AIEDAP…) (S4P3_Jonghwi PARK_AI te…).

4.5 Assessment Methods:
  o **Utilize AI-Driven Assessments**: As discussed in the presentations, AI-driven assessments can provide real-time feedback and personalized learning paths, which can be incorporated into Cambodia's education system (S4P1_Rhona SHARPE_Desig…) (S4P3_Jonghwi PARK_AI te…).

VIII. Session 5: Sharing Strategies and Experiences of Digital Education Policy

1. Comprehensive Summary of Key Points from Each Presentation

1.1 Peter Magaga (Papua New Guinea): Digital Education Policy (ICT Policy)

Main Arguments:
Peter Magaga discussed the challenges and strategies related to implementing ICT policies in Papua New Guinea. The presentation focused on how limited infrastructure, high ICT illiteracy rates, and energy restrictions hinder the adoption of digital education in the country. Magaga emphasized the need for comprehensive teacher training and the rollout of ICT in secondary schools to overcome these challenges.

Evidence Presented:
Key issues include a lack of technical support for digital initiatives and poor access to digital resources due to infrastructural limitations. The presentation stressed that a concerted effort in teacher training and administrative support is required to implement ICT in education effectively (S5P1_Peter MAGAGA_edu-i…).

Conclusions:
Papua New Guinea faces significant obstacles in its digital education efforts, including infrastructure and energy issues. Addressing these will require investment in teacher training, ICT support, and resource availability.

1.2 Kalamelu Paulo (Tuvalu): Strategic Approach to a Resilient Digital Learning Ecosystem

Main Arguments:
Kalamelu Paulo outlined Tuvalu's strategic approach to developing a resilient digital learning ecosystem, focusing on bridging the digital divide caused by geographic isolation and limited resources. The strategy includes the Tuvalu eLearning School System and infrastructure development to ensure access to digital education.

Evidence Presented:
The presentation highlighted the role of World Bank-supported initiatives, including the Tuvalu Learning Project (TuLeP), which provided satellite-based internet (Kacific VSAT) and computer labs for schools. It also discussed the need for further infrastructure improvements and the integration of education data into a centralized EMIS (Education Management Information System) (S5P2_Kalamelu PAULO_Tuv…).

Conclusions:
Tuvalu's strategy of leveraging international partnerships and focusing on infrastructure

development shows promise. However, ongoing challenges include the need for more digital literacy training and stable internet access.

1.3 Nabuange Tokitebwa (Kiribati): Kiribati's Journey in Digital Learning

Main Arguments:
Nabuange Tokitebwa described the digital education journey in Kiribati, a nation that faces significant geographic and infrastructural challenges. The use of solar-powered learning environments and the implementation of Learning Management Systems (LMS) are key components of Kiribati's strategy to provide access to education in remote areas.

Evidence Presented:
The presentation showcased key ICT initiatives, including the distribution of Open Educational Resources (OER) via offline servers like RACHEL, and the development of the Kiribati Education Management Information System (KEMIS). The importance of teacher training and adaptability to local contexts was emphasized (S5P3_Nabuange TOKITEBWA).

Conclusions:
Kiribati's experience highlights the importance of tailoring digital solutions to local contexts. While progress has been made, challenges remain in ensuring consistent use of digital tools and maintaining trained staff.

1.4 Meng Huyteang (Cambodia): Cambodia's Digital Education Policy: Strategy and Challenges

Main Arguments:
Meng Huyteang discussed Cambodia's digital education strategy, which aims to improve infrastructure, develop e-learning platforms, and foster stakeholder collaboration through public-private partnerships. Cambodia's "Pentagonal Strategy" focuses on improving access to digital resources and adapting curricula to meet digital learning needs.

Evidence Presented:
Key challenges include limited digital infrastructure, insufficient capacity among teachers and students, and the slow adaptation of curricula to digital instruction. Huyteang emphasized the need for stakeholder collaboration to address these issues (S5P4_Meng HUYTEANG).

Conclusions:
Cambodia's efforts to improve its digital education infrastructure are ongoing, but significant challenges remain, particularly in terms of teacher capacity and the availability of resources. Public-private partnerships are essential to overcoming these obstacles.

2. Key Insights: Addressing Challenges, Strategies, and Infrastructure for Digital Education in Cambodia

2.1 Primary Challenges Facing Digital Education in Cambodia

- **Infrastructure Limitations**: Like many other developing nations, Cambodia faces significant challenges in providing reliable internet access and ICT infrastructure, particularly in rural areas (S5P4_Meng HUYTEANG).
- **Teacher and Student Capacity**: Both teachers and students lack the necessary digital literacy skills to fully engage with digital learning platforms. This challenge is common across nations like Papua New Guinea and Kiribati (S5P1_Peter MAGAGA_edu-i…) (S5P3_Nabuange TOKITEBWA).
- **Curriculum Adaptation**: Adapting the curriculum to incorporate digital learning methods remains a challenge, as Cambodia's education system is still transitioning to integrate ICT and e-learning platforms (S5P4_Meng HUYTEANG).

2.2 Innovative Strategies or Technologies Being Used to Address These Challenges

- **Solar-Powered Learning and Offline Solutions**: Kiribati's use of solar-powered learning environments and offline servers (RACHEL devices) to distribute OER materials could serve as a model for Cambodia's remote areas (S5P3_Nabuange TOKITEBWA).
- **E-Learning Platforms**: Cambodia's development of e-learning platforms, supported by public-private partnerships, shows promise in addressing the need for scalable digital education solutions (S5P4_Meng HUYTEANG).
- **International Partnerships**: Tuvalu's collaboration with the World Bank to provide satellite-based internet and digital literacy initiatives offers a potential pathway for Cambodia to improve connectivity and digital learning access (S5P2_Kalamelu PAULO_Tuv…).

2.3 How Can Cambodia Improve Its Digital Infrastructure to Support Effective Online Learning?

- **Expand Internet Access**: Cambodia should consider partnerships similar to Tuvalu's with international organizations to deploy satellite internet solutions or expand broadband access in rural areas (S5P2_Kalamelu PAULO_Tuv…) (S5P4_Meng HUYTEANG).
- **Leverage Solar Energy**: Solar-powered learning environments, as seen in Kiribati, could be used to power digital learning in areas with unreliable electricity (S5P3_Nabuange TOKITEBWA).

3. Comparison of Approaches in the Different Presentations

Similarities:

- **Focus on Infrastructure**: All countries, including Cambodia, face significant challenges in building the necessary ICT infrastructure to support digital education. The strategies presented often emphasize international partnerships and solar-powered solutions to address infrastructure gaps (S5P1_Peter MAGAGA_edu-i…) (S5P2_Kalamelu PAULO_Tuv…) (S5P3_Nabuange TOKITEBWA) (S5P4_Meng HUYTEANG).

- **Teacher Training**: Every nation in these presentations highlights the importance of teacher training and capacity building, particularly in the use of digital tools (S5P1_Peter MAGAGA_edu-i…) (S5P3_Nabuange TOKITEBWA) (S5P4_Meng HUYTEANG).

Differences:

- **Tailoring to Local Contexts**: Kiribati's emphasis on adapting technology solutions to local contexts, such as the use of offline servers, contrasts with Cambodia's broader focus on e-learning platforms supported by public-private partnerships (S5P3_Nabuange TOKITEBWA) (S5P4_Meng HUYTEANG).
- **Scope of Digital Education**: While Tuvalu focuses heavily on building a resilient digital learning ecosystem through infrastructure and local capacity building, Cambodia has placed more emphasis on collaboration with the private sector to address digital education challenges (S5P2_Kalamelu PAULO_Tuv…) (S5P4_Meng HUYTEANG).

4. Recommendations for Improving Digital Education in Cambodia
4.1 Educational Policy:

- **National Digital Education Strategy**: Cambodia should strengthen its national digital education strategy by prioritizing partnerships with international organizations to improve infrastructure, similar to Tuvalu's approach with the World Bank (S5P2_Kalamelu PAULO_Tuv…) (S5P4_Meng HUYTEANG).
- **Focus on Equity**: Policies should ensure equitable access to digital education, particularly for rural and underserved areas (S5P4_Meng HUYTEANG).

4.2 Teacher Training:
- **Ongoing Professional Development**: Cambodia should implement teacher training programs that focus on continuous digital literacy development, drawing from Kiribati's emphasis on local adaptability and teacher capacity building (S5P3_Nabuange TOKITEBWA).

4.3 Student Access to Technology:
- **Provide Digital Devices**: Cambodia should follow Kiribati's example by distributing affordable digital devices to students in remote areas, supported by solar-powered solutions (S5P3_Nabuange TOKITEBWA).

4.4 Curriculum Development:
- **Integrate Digital Literacy**: Cambodia's curriculum should be updated to include digital literacy and e-learning as core components, ensuring that both teachers and students are prepared for a tech-driven world (S5P4_Meng HUYTEANG).

4.5 Assessment Methods:
- **Utilize Digital Assessments**: As Cambodia's digital infrastructure improves, it can incorporate AI-driven assessments and personalized learning pathways to provide real-time feedback and improve educational outcomes (S5P4_Meng HUYTEANG).

IX. Compiled Recommendations for Cambodia

Keynote Speech: Challenges of High-Tech Transformations of Education

Presented by: **Neil Selwyn**

Key themes include the challenges of EdTech implementation, including the over-hyped promises of technology, the exacerbation of inequality, and the need for a mature, informed approach to technology adoption in education.

Session 1: AI Transformation: Driving New Ground in Education

1. **Sunbin Kim (Ministry of Education, Korea):**
   AI-driven education and teacher guidance using AI textbooks.
   - o Recommendations: Develop AI digital textbooks and train teachers to leverage AI-driven learning paths.
2. **Seiji Isotani (Brazil):**
   AI in education for low-resource environments.
   - o Recommendations: Implement adaptable AI systems for under-resourced areas.
3. **Allison Littlejohn (UK):**
   Balancing human and AI roles in learning.
   - o Recommendations: Foster co-designed AI systems to improve learning without replacing human interaction.

Session 2: Empowering Learners to Lead Change

1. **Andrew Sliwinski (LEGO Education):**
   Hands-on learning with AI.
   - o Recommendations: Promote interactive learning tools like LEGO to foster creativity and problem-solving skills.
2. **Hyungu Kim:**
   Integrating SEL in classrooms.
   - o Recommendations: Incorporate SEL to improve student well-being and engagement.
3. **Shuchi Grover:**
   AI and data literacy for future problem solvers.
   - o Recommendations: Teach computational literacy and ethical AI use.
4. **Hyojin Jun:**
   Blended learning to empower student agency.
   - o Recommendations: Use blended learning approaches to give students more control over their education.

Keynote Speech: EdTech for All: Promoting Equity and Access in Mongolia's Education System

Presented by: **Batjargal Khandjav**

Key focus on Mongolia's journey in digital education, emphasizing teacher training, curriculum digitalization, and the use of open platforms to promote equitable education access across urban and rural areas.

Session 3: Integrating EdTech in Public Education

1. **Elfrina Li Cruz (Timor-Leste):**
   Using EMIS for data-driven education improvement.
   - Recommendations: Use education management systems to improve data collection and management.
2. **Ahreum Hong (South Korea):**
   AI literacy for human development.
   - Recommendations: Incorporate AI literacy into the curriculum.
3. **Shambel Yilma Arega (Ethiopia):**
   AI for educational inclusivity.
   - Recommendations: Invest in AI initiatives to bridge rural-urban educational divides.

Session 4: Teacher-Driven Revolutions in the Classroom

1. **Rhona Sharpe (Oxford University):**
   Designing effective CPD.
   - Recommendations: Promote collaborative CPD to empower teachers and redesign curriculum assessments.
2. **Cheolil Lim (South Korea):**
   Developing digital competencies in teachers.
   - Recommendations: Establish scalable, ongoing CPD systems with an emphasis on AI literacy.
3. **Jonghwi Park:**
   Teacher roles in using AI effectively.
   - Recommendations: Involve teachers in AI tool development to maintain pedagogical value.
4. **Hyeran Park:**
   Balancing technology with human teaching.
   - Recommendations: Emphasize the role of teachers as facilitators in the post-digital transformation classroom.

Session 5: Sharing Strategies and Experiences of Digital Education Policy

1. **Peter Magaga (Papua New Guinea):**
   ICT policy challenges.
   - Recommendations: Invest in teacher training and address infrastructural limitations.

2. **Kalamelu Paulo (Tuvalu):**
   Building a resilient digital ecosystem.
   - Recommendations: Use satellite internet solutions for remote learning.
3. **Nabuange Tokitebwa (Kiribati):**
   Solar-powered learning and offline solutions.
   - Recommendations: Implement solar-powered solutions and offline OER distribution for remote areas.
4. **Meng Huyteang (Cambodia):**
   Cambodia's digital education policy.
   - Recommendations: Strengthen infrastructure and expand public-private partnerships for digital learning platforms.

Recommendations under the Specific Factors:

1. **Educational Policy**
   - Develop a national AI education strategy that promotes equity and access to technology, with a particular focus on rural areas.
   - Foster public-private partnerships to accelerate the rollout of e-learning platforms and infrastructure.
2. **Teacher Training**
   - Implement ongoing CPD programs that focus on digital and AI literacy, ensuring all teachers are equipped to integrate technology into classrooms.
   - Establish master teacher certification programs to train teachers in AI and digital tools.
3. **Student Access to Technology**
   - Provide affordable digital devices to students, particularly in rural areas, supported by solar-powered solutions and offline learning tools.
   - Improve internet connectivity nationwide, leveraging satellite and mobile-based solutions.
4. **Curriculum Development**
   - Integrate AI, digital literacy, and computational thinking into the curriculum at all educational levels.
   - Incorporate SEL (Social Emotional Learning) to build resilience and empathy alongside technological skills.
5. **Assessment Methods**
   - Use AI-driven digital assessments to provide personalized learning pathways and real-time feedback.

X. Conclusion

Cambodia is poised to make significant strides in digital education by leveraging the insights and strategies shared during the Digital Education Global Forum 2024. By investing in infrastructure, teacher training, and digital literacy, and fostering public-private partnerships, Cambodia can bridge the educational divide and create a more inclusive, equitable, and future-ready education system.