



# SYNTHESIS NOTE OF KIX EAP LEARNING CYCLE 3 INTEGRATION OF 21ST CENTURY SKILLS IN CURRICULUM

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## ABOUT NORRAG

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## ABOUT THE KIX EAP HUB

The [Global Partnership for Education \(GPE\) Knowledge and Innovation Exchange \(KIX\)](#) is a joint endeavour with the [International Development Research Centre \(IDRC\)](#) to connect expertise, innovation, and knowledge to help GPE partner countries build stronger education systems and accelerate progress toward SDG 4. There are globally four KIX hubs or Regional Learning Partners, overseen by IDRC. The Hub functions as a regional forum within KIX. NORRAG (Network for International Policies and Cooperation in Education and Training) is the Regional Learning Partner for the KIX Europe Asia Pacific (EAP) hub.

The KIX EAP Hub facilitates cross-country knowledge and innovation exchange and mobilisation, learning, synthesis, and collaboration among national education stakeholders in 21 GPE partner countries in the EAP region. The Hub also offers opportunities for peer learning and exchange by means of professional development and inter-country visits.

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## ABOUT THE KIX EAP LEARNING CYCLES

The KIX EAP Learning Cycles are professional development courses offered to national education experts from 21 GPE partner countries in the Europe | Asia | Pacific (EAP) region. Teams of national experts analyse, contextualise, and produce new knowledge on policy analysis and innovations. These professional development courses allow participants to share experiences, exchange knowledge, and contribute to the strengthening of their national education systems. The learning cycles are also an opportunity for national experts to publish their studies and findings internationally, and disseminate them on diverse online platforms, with support from the KIX EAP Hub.

## ABOUT THE LEARNING CYCLE ON INTEGRATION OF 21ST CENTURY SKILLS IN CURRICULUM

From June 14 - July 9 2021, and August 16 to September 9, 2021, the KIX EAP Hub, in partnership with the Australian Council for Educational Research (ACER), delivered two rounds of a four-week course to strengthen the link between policy and implementation regarding 21st century skills. 34 participants in seven country teams participated in the first round of the course and 35 participants in seven country teams participated in the second round of the course. The course addressed the steps required and the challenges faced by policy makers to implement systematic curriculum reform that further emphasizes 21st century skills within learning outcomes and ensures these are connected to relevant assessment measures and pedagogical strategies.



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## LIST OF ACRONYMS AND ABBREVIATIONS

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KIX EAP	Knowledge Innovation Exchange Europe, Asia, Pacific Hub
21 CS	21st Century Skills
ACER	Australian Council for Educational Research
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
IT	Information Technology
NSED	National Strategy for Education Development
ICT	Information and Communication Technology
MoES	Ministry of Education and Science

# 1

## LEARNING CYCLE: INTEGRATION OF 21ST CENTURY SKILLS IN CURRICULUM

As education systems are realising the importance of 21<sup>st</sup> century skills (21CS) in preparing students to participate and engage with the modern world, there has been a push to introduce these skills explicitly into national curricula. To respond to this increasing need, this KIX EAP Learning Cycle “Integration of 21<sup>st</sup> Century Skills in Curriculum” was designed to guide participants in developing a context-specific strategic plan to further integrate 21CS into their education systems at large, and the national curriculum of their respective countries. During the course, participants conducted a thorough review to identify to what extent 21CS had been integrated into their systems and curriculum by:

1. Conducting a needs analysis to identify actionable steps that needed to be addressed in their strategic plans
2. Conducting a skills audit to understand precisely how 21CS were integrated into learning goals

3. Reviewing and revising mission/vision statements
4. Generating a heat map to identify specific goals to move forward with in their plans

The Learning Cycle’s first round was held from June 14 – July 9, 2021, and the second round was held from August 16 – September 9, 2021. The learning cycles included 69 participants from the following fourteen countries: Afghanistan, Bhutan, Cambodia, Maldives, Nepal, Papua New Guinea, Vietnam, Kyrgyzstan, Moldova, Mongolia, Sudan, Tajikistan, Pakistan and Uzbekistan. The teams were led by the Australian Council for Education Research (ACER).

Table 1 shows a breakdown of participants by country and participating organization and/or position. Appendix A provides a more detailed list of participants by name.

**Table 1: Learning Cycle Participants by Country and Participating Organization/Position**

Country	Participating Organization/Position	Country	Participating Organization/Position
Afghanistan	<ul style="list-style-type: none"> <li>• Education program deputy coordinator</li> <li>• International Rescue Committee education coordinator</li> <li>• Ministry of Education officials</li> <li>• UNESCO project officer</li> </ul>	Mongolia	<ul style="list-style-type: none"> <li>• Institute of Teachers’ professional development representative,</li> <li>• Mongolian Education Alliance representative</li> <li>• All for Education representative</li> </ul>
Bhutan	<ul style="list-style-type: none"> <li>• Bhutan Council for School Examination and Assessment subject coordinator</li> <li>• Department of curriculum and professional development curriculum specialist</li> <li>• Royal Education Council curriculum developer (Physics)</li> <li>• Samste College of Education Lecturer</li> <li>• UNICEF education officer</li> </ul>	Nepal	<ul style="list-style-type: none"> <li>• local government education policy officer</li> <li>• Kathmandu Shiksha Community Campus lecturer</li> <li>• curriculum development officer</li> <li>• secondary-level schoolteacher</li> <li>• Tribhuvan University lecturers</li> </ul>
Cambodia	<ul style="list-style-type: none"> <li>• Department of Curriculum Development, Ministry of Education, Youth and Sport (chief and curriculum developer)</li> <li>• Department of Policy, Ministry of Education, Youth and Sport Director</li> <li>• Faculty of Arts, Humanities, and Social Science Cambodia University of Technology and Science (Dean)</li> <li>• Ministry of Education Deputy Director General of Education</li> </ul>	Papua New Guinea	<ul style="list-style-type: none"> <li>• Ministry of Education research and resource officer</li> <li>• Papua New Guinea National Research Institute research fellow and statistician</li> </ul>
Maldives	<ul style="list-style-type: none"> <li>• Maldives National University (a senior lecturer and an assistant professor),</li> <li>• National Institute of Education education development officers</li> <li>• UNICEF education program specialist</li> </ul>	Tajikistan	<ul style="list-style-type: none"> <li>• Researcher at National Academy of Sciences</li> <li>• Lecturer at Khujand State University</li> <li>• Public school employee</li> <li>• UNICEF education specialist</li> <li>• Head of International Relations department at Khujand State University</li> </ul>
		Vietnam	<ul style="list-style-type: none"> <li>• Girls’ Education Program senior program manager</li> <li>• National Center for Sustainable Development of General Education Quality researcher</li> <li>• Room to Read Vietnam country director</li> <li>• Secondary Education Department, Ministry of Education and Training specialist and a staff member</li> <li>• Vietnam Institute of Educational Sciences researcher</li> </ul>

The overall objective was to support countries in conducting a needs analysis of 21CS integration in the curriculum in their respective countries, and develop. This review led to several key findings and gaps and formulated the basis for participants' country-wide strategic plans for 21CS integration.

The specific Learning Cycle outcomes were to:

- Conduct a needs analysis, identifying which steps were currently being met, and which needed more attention
- Develop a curriculum reform strategic plan, identifying which steps are to be prioritized and in which order
- Identify priorities for an aligned approach to skills integration, and a plan for targeting those systematically developed
- Understand the components of 21CS alignment and a deeper understanding of the three skills (critical thinking, creative thinking, and collaboration)
- Gain insights from other education systems from reflections on successful developments and lessons learned
- Engage in discussions within each respective country and among other countries about the emerging area of skills integration, reflect on lessons learned thus far, and identify future directions
- Produce quality knowledge products in English that are published online and disseminated widely by the KIX EAP Hub.

# 2

## SUMMARY OF KEY FINDINGS

Out of the nine country teams, seven country teams (Bhutan, Cambodia, Maldives, Mongolia, Nepal, Tajikistan and Vietnam) developed knowledge products that outlined the results of their needs assessments and recommendations for further action. This section will highlight some of the key findings of these studies.

### Bhutan

The Bhutan team found that while there is no official vision and statement for 21CS in the country, the existing vision statement reflects 21CS and the mission statement is in alignment with it. More specifically, the vision statement outlines an education system that fosters excellence and empowers the Bhutanese to be responsible citizens who are caring and successful lifelong learners, driven by a spirit of innovation, creativity and enterprise, to uphold the happiness of the living world and protect the organic ecosystem and the non-living environment. The team undertook a needs analysis of the grade eight general science curriculum. They found that there are some elements of 21CS reflected in the learning outcomes and assessments. However, it is not clear how these skills should be aligned and operationalized. The needs analysis also found that there is a need for relevant stakeholders to come together in bringing alignment to the curriculum.

The team's skills audit found that critical thinking, creative thinking, and collaboration skills are prioritized in the curriculum. However, collaboration skills seem to be less visible than the other two. They also observed that out of the 21CS addressed in the curriculum, pedagogy and assessment were minimal, and there was a lack of alignment among these three skills.

### Cambodia

The Cambodia team found that 21CS are integrated into the national curriculum framework, but assessable and measurable skills are not detailed in the curriculum. The Department of Education Quality Assurance of the Ministry of Education, Youth and Sport have developed standard assessment tests for Grade 3, 6, 8 and 11 by embedding some 21CS but this effort is still in the early stages.

### Maldives

The Maldives team determined that the curriculum vision encompasses 21CS. However, the curriculum includes no specific mission statement to guide stakeholders in achieving their vision.

The skills audit which was conducted for the grade 1 mathematics and science curriculum found that the science syllabus focuses less on all aspects of the three skills (critical thinking, creative thinking, and collaboration) than the mathematics syllabus. They also found that some aspects of the skills were identified as having little or no coverage, and very few aspects are up to the level of expectations.

### Mongolia

The mission and vision statements need to be reviewed and updated so that they explicitly refer to the skills being prioritised for the curriculum outcomes.

The team prioritised three skills: collaboration, critical thinking and creative thinking. The team conducted a skills audit on two Grade 9 subjects: English and biology, and developed a heat map to demonstrate the desired level of integration across subjects for the skill of collaboration (see Table 1.1). In the heat map, if a subject and collaboration skills is labeled green, it indicates that the team wishes to see that skill highly integrated into the curriculum for that particular subject(s). If a skills and subject are is labeled red, it indicates a lower desire to having that skill integrated into the curriculum in that area.

**Table 1.1: System-level heat map for Grade 9 Integration for 21CS “Collaboration”**

	English	Mongolian language	Math	IT	Science	Geography	Social studies	Arts	Design and technology	Physical education	Health
Collab 1.1	80%	80%	30%	30%	50%	60%	100%	50%	70%	20%	80%
Collab 1.3	30%	30%	30%	40%	50%	40%	70%	50%	70%	50%	30%
Collab 2.1	80%	20%	30%	30%	100%	30%	20%	50%	60%	30%	30%
Collab 2.2	50%	60%	20%	50%	80%	70%	100%	40%	90%	30%	30%
Collab 2.3	30%	10%	10%	20%	80%	20%	70%	50%	80%	60%	20%
Collab 3.3	30%	50%	20%	20%	80%	50%	80%	60%	80%	60%	40%

  

	High coverage: 70%–100%
	Medium coverage: 40%–69%
	Low coverage: 10%–39%

As part of their strategic plan, the team intends to create a similar heat map for the two remaining prioritized skills, critical thinking and creative thinking. The team also wanted to involve additional experts in carrying out the strategic plan that was developed.

## Nepal

The study submitted by the Nepal team noted that the country does not have a separate official vision and mission statement regarding 21CS. However, creative thinking and collaboration skills are mentioned in the 12 goals of the national curriculum framework.

For the skills audit, the team analyzed the presence of critical thinking skills in the grade three subject of ‘surroundings’ – a subject in which four learning areas (science, social, creative arts, and health) are integrated. Their general assessment was that the presence of critical thinking skills was relatively low.

## Tajikistan

The team found that there were no existing vision or mission statements, and subsequently developed them during the course.

The needs analysis highlighted the drawbacks of the competency-based education reform in Tajikistan and the National Strategy for Education Development (NSED). As NSED and other national documents did not provide a framework for the 21 CS, the team decided to adopt the skills definition and framework developed by ACER.

For the skills audit, the team members did a preliminary audit of collaboration and critical thinking skills in two primary subjects for grade 4, discussed the outcomes and suggested possible solutions for their improvement. In the alignment table, the team put forth a detailed example of how the four C’s can be successfully incorporated into the curriculum.

In the heat map (see Table 1.2), the team included literacy, numeracy, ICT capability, communication, collaboration, critical thinking and creative thinking skills as a desirable picture of what they would like their curriculum to consider in the future. It should be noted that the heat map presents an aspirational vision of how the team would like 21CS to be integrated across the curriculum in different subject areas.

**Table 1.2:** Tajikistan 21<sup>st</sup> CS Heat map

General capabilities	Tajik Language	Russian language	English Language	Tajik Literature	General Tajik history	Law	Algebra	Geometry	IT	Physics	Chemistry	Biology	Geography	Design technology
Literacy	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Numeracy	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Green
ICT capability	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Orange	Green	Green	Yellow	Yellow	Yellow	Green	Green
Communication	Green	Green	Green	Green	Green	Green	Orange	Yellow	Green	Yellow	Yellow	Yellow	Green	Green
Collaboration	Green	Green	Green	Green	Yellow	Green	Yellow	Yellow	Yellow	Green	Green	Green	Yellow	Green
Critical thinking	Yellow	Yellow	Yellow	Green	Green	Green	Yellow	Yellow	Yellow	Yellow	Yellow	Yellow	Green	Green
Creative thinking	Yellow	Yellow	Yellow	Green	Orange	Green	Orange	Green	Green	Orange	Orange	Orange	Yellow	Green
	High coverage: 90%–100%													
	Medium coverage: 50%–89%													
	Low coverage: 10%–49%													
	No coverage: 9% or less													

The strategic plan presented by the team provided possible options of the 21<sup>st</sup> CS integration task which could be implemented by the MoES of Tajikistan.

## Vietnam

The Vietnam team found that Vietnam does not have a specific vision and mission statement focused on 21CS. However, core competencies reflecting 21<sup>st</sup> century learning are embedded within the General Education Program.

Their skills audit looked at existing core competencies/21CS for first grade subjects. After the audit, the team concluded that core competencies in all subjects are prioritised, and the aim is to form and develop these skills further across all subjects. Specific competencies were more prevalent and had more relevance in certain subjects over others.

# 3

## COMMON TRENDS ACROSS THE COUNTRY STUDIES

There were a few common themes across the studies. Firstly, as mentioned above, all countries analysed the **presence and gaps of 21CS in the curriculum** including vision and mission statements. Most countries found that there were no specific vision and mission statements pertaining to 21CS although some of the vision and mission statements alluded to the importance of certain 21CS. In addition, the subsequent skills audit and needs analysis conducted in each study found a varying presence of 21CS in each curriculum, which allowed teams to identify which areas warranted further integration and/or alignment of 21CS. Relatedly, there was also general analysis that teachers have been inadequately trained in 21CS. Another commonality was with respect to **skills definitions**. Most teams stated that the skills definitions they learnt during the course broadened and deepened their understanding of the skills. Teams reported that there is still a gap in understanding and utilizing skills definition in their countries; skills and competencies are not fully conceptualized, defined and broken down into observable, measurable attributes. For instance, in Vietnam, the team realized that the current skills definitions and competencies in the 2018 curriculum were lacking structure and clarity which had a cascading effect to teachers who, as a result, are not able to implement them into their teaching practices and assessments.

In addition, as part of the Learning Cycle, teams **developed strategic plans** that generally followed a similar pattern of planning and development, implementation, and evaluation; however, the scope of each plan varied. Most studies also called for a revamping of the existing skills framework to some extent.

Lastly, one pressing need that teams identified was a **lack of appropriate and relevant expertise**. To undertake better curriculum planning and review, most teams recommended inclusion of a greater diversity of experts on their teams. In Bhutan, this recommendation also involved inviting external experts to join their team due to a general lack of expertise in curriculum development in the country.

# 4

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## CONCLUSION

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Overall, the review and analysis of the integration of 21CS into national curricula in this Learning Cycle was a useful activity for the participating country teams. The cross-country knowledge sharing and exchange identified shared challenges and provided useful insights that can be utilized in assessing the role of 21CS in each respective country's strategic plan.

These initial studies have begun to lay the groundwork for each country to understand the presence of 21CS in their own respective curriculum to plan for the development and layering of these skills into their existing systems.

# APPENDIX

## APPENDIX 1 – LIST OF PARTICIPANTS FROM ROUND 1 AND ROUND 2 OF LEARNING CYCLE 3

Country	Name
Afghanistan	5 participants*
Bhutan	Kinley Seden
Bhutan	Phuntsho Norbu
Bhutan	Bishnu Bhakta Mishra
Bhutan	Dorji Dema
Bhutan	Bhoj Raj Rai
Cambodia	Chankoulika BO
Cambodia	Sathya Chea
Cambodia	MOK Sarom
Cambodia	Chanthy He
Cambodia	Sarie Leng
Maldives	Mariyam Shareefa
Maldives	Neena Ali
Mongolia	Batjargal Batkhuyag
Mongolia	Tungalag Dondogdulam
Mongolia	Aldarmaa Sodnomdarjaa
Maldives	Gulfishan Shafeeu
Maldives	Ashraf Abdul Raheem
Maldives	Mazeena Jameel
Nepal	Yogendra Bijukchhen
Nepal	Dhruba Prasad Niure
Nepal	Ashik Singh
Nepal	Khil Shrestha
Nepal	Mina Shrestha
Nepal	Kamal Prasad Acharya
Papua New Guinea	Willie Tony
Papua New Guinea	Peter Michael Magury
Tajikistan	Mijgona Kurbonmamadova
Tajikistan	Vasila Bozichaeva
Tajikistan	Parvina Rizoeva
Tajikistan	Eraj Sodatsayrov
Tajikistan	Guzalkhon Mirsaminova
Vietnam	Huyen Nguyen
Vietnam	Le Trung Dung
Vietnam	Nguyen Thu Thao
Vietnam	Nguyen Thi Bach Duong
Vietnam	Doan Thi Tam Dan

Country	Name
Vietnam	Nuong Nguyen
Kyrgyz Republic	Masuma Bashirova
Kyrgyz Republic	Irina Chistiakova
Kyrgyz Republic	Umankulova Onolkan
Mongolia	Batjargal Batkhuyag
Mongolia	Ms. Tungalag Dondogdulam
Pakistan	Sadia Adeeb
Kyrgyz Republic	Ulanbek Mambetakinov
Moldova	Natalia Griu
Moldova	Gutu Vladimir
Moldova	Corina Lungu
Moldova	Ludmila Frantuzan
Mongolia	Ms. Aldarmaa Sodnomdarjaa
Pakistan	Parveen Arain
Pakistan	Hina Salman
Sudan	Habib Adam Habib
Sudan	Mai Eldow Mohamed Yousif
Sudan	Ahamed Hamd Elneel Hesballa
Sudan	Alkhateeb Altyeb Seedahmed
Uzbekistan	Amrillo Abdullaev
Uzbekistan	Komil Djalilov
Kyrgyz Republic	Nurgul Sharapova
Moldova	Daniela Munca-Aftenev
Tajikistan	Eraj Sodatsayrov
Pakistan	Raabia Hirani
Pakistan	Farhana Naz Siddiqui
Tajikistan	Vasila Bozichaeva
Tajikistan	Parvina Rizoeva
Tajikistan	Abdurahim Vohidov
Tajikistan	Mijgona Kurbonmamadova
Pakistan	Sarwat Mahmood Alam (Ms.)
Tajikistan	Mirsaminova Guza
Uzbekistan	Sakhiba Kazakova
Uzbekistan	Iroda Saibova
Uzbekistan	Alisher Ganiev
Uzbekistan	Umuraliev Mamuraxon

\* Due to security concerns, the names of participants from Afghanistan will not be disclosed.

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