INTEGRATION OF 21ST CENTURY SKILLS IN THE TAJIKISTAN CURRICULUM

Mijgona Kurbonmamadova
Vasila Bozichaeva
Parvina Rizoeva
Eraj Sodatsayrov
Guzalkhon Mirsaminova

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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 From June 14 to 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 emphasises 21st century skills within learning outcomes and ensures these are connected to relevant assessment measures and pedagogical strategies.

A BIOGRAPHICAL NOTE ON THE AUTHORS

Mijgona Kurbonmamadova (Dushanbe, Tajikistan) has been working in the field of education for the last five years and has experience teaching in public schools, primarily social sciences to grades 9-11 and conducting professional development for teachers. Currently, she is involved in two projects.

Vasila Bozichaeva (Dushanbe, Tajikistan) is currently completing a PhD in Sociology of Education. Her thesis examines higher education reform in Tajikistan. In particular, Vasila is studying the country's integration to the European Higher Education Area within the Bologna Process. As part of her volunteering endeavours, she is introducing youth and adolescents to skills within the framework of a Career Guidance Project. She used to work as a teacher with the University of Central Asia and has participated in the Cambridge Assessment Courses. She is currently a senior researcher at the National Academy of Sciences of Tajikistan.

Parvina Rizoeva (Khujand, Tajikistan) has been teaching EFL for 15 years, 10 of them as a lecturer at Khujand State University. In 2017, she participated in the English Teaching Mentor Program, sponsored by the U.S. Embassy in Dushanbe. Since then, she has taken part in two Massive Open Online Courses (MOOCs): one on Integrating Critical Thinking and another on TESOL Methodology. She also completed an OPEN (Online Professional English Network) course on ICT which was funded by the U.S. Department of State.

Eraj Sodatsayrov (Dushanbe, Tajikistan) is working for UNICEF Tajikistan as an education specialist. His role in the office is to support the development and preparation of education programs primarily focusing on inclusive education and skill-building for adolescents and is responsible for managing, implementing, monitoring, evaluating and reporting the progress of education projects within the country program.

Guzalkhon Mirsaminova (Khujand, Tajikistan) has been teaching EFL for 15 years as a lecturer at Khujand State University, and now has a position as the Head of the International Relations Department of the university. Guzalkhon has worked in many language learning centres as well, and in 2013 she opened her own centre "Alfoz" in Gafurov District, for learners of all different ages.

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LIST OF ACRONYMS AND ABBREVIATIONS

ACER	Australian Council for Education Research
CBE	Competency-based Education
GPE	Global Partnership for Education
ICT	Information Communication Technology
MoES	Ministry of Education and Science
MOOC	Massive Open Online Course
NSED	National Strategy for Education Development
OPEN	Online Professional English Network
TJK	Tajikistan
21 CS	21st Century Skills
TESOL	Teaching of English to Speakers of Other Languages

ACKNOWLEDGEMENTS

EXECUTIVE SUMMARY

This report was a course assignment for the KIX EAP Learning Cycle titled 'Integration of 21 Century Skills in the Curriculum'. The report outlines the vision and mission statements, needs analysis, in-focus skills definitions and audit, and a strategic plan developed by the team, as they plan for the integration of 21st century skills (21 CS) in the curriculum. The report ends with reflections of the authors on the lessons learnt during the course.

The **vision and mission statements** developed by the team members focus on the skills that the Tajik system of education should include in the curriculum. The **needs analysis** highlights the drawbacks of the competency-based education reform in Tajikistan and the National Strategy for Education Development (NSED). The **Tajik curriculum assessment** also shows that there are many steps yet to be undertaken. As NSED or other documents do not provide a framework for the 21 CS, the team decided to adopt the **skills definition and framework** developed by the Australian Council for Educational Research (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 (creative thinking, critical thinking, collaboration, and communication) can be successfully incorporated into the curriculum. In the **heat map**, 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. The **strategic plan** presented by the team provides possible options of the 21 CS integration task which could be implemented by the MoES of Tajikistan.

The collaborative work on writing the report resulted, first, in formulating the 21 CS's vision and mission statement demanding that education become a catalyst of effective, quality, and inclusive education for learners through the integration of 21-century skills in the curriculum. The process is ongoing, and the existing curriculum is currently being audited. The report made it possible to formulate the skills framework, define the skills based on internationally accepted terminology and develop the system-level heat map exhibiting the level of coverage of the main skills throughout the subjects taught at schools.

Although this report is a result of the team's reflections based on their knowledge, observations, and experience, it can serve as a document to navigate the implementation of the 21 CS integration agenda in Tajikistan's education system.

1

TAJIKISTAN TEAM COMPOSITION

The Tajikistan team consisted of five members representing two different regions in Tajikistan, including Mijgona Kurbonmamadova (Dushanbe), Eraj Sodatsayrov (Dushanbe), Vasila Bozichaeva (Dushanbe), Guzalkhon Mirsaminova (Khujand), and Parvina Rizoeva (Khujand).

For the team members, not knowing each other professionally was a barrier to communication and effective group work at the initial stage, but they ultimately bypassed this issue and worked on the tasks together. Some challenges they faced as a team were meeting in a virtual space with poor connectivity and having distinct cultures of communication particularly in regard to gender. However, the communication and reflections that arose directly from group interactions and discourse (e.g. during explaining concepts, asking thought-provoking questions) led to cognitive restructuring and analysis of issues, and other forms of higher-level thinking. Time given for learning and engagement with other team members was limited, and there is a need for additional time to collaborate if the purpose is to create an effective community of practice.

2

VISION AND MISSION STATEMENTS

Having no vision or mission statements in place, the team decided to develop them during the course. To raise a generation that is successful, able to reach its full potential, and demonstrate active citizenship, the education system should aim to promote effective education to all learners with quality resources and teaching, and fair assessment practices. Through quality education, learners will be able to demonstrate the following skills in and beyond school:

- Core skills, such as literacy, numeracy, ICT and scientific literacy

- Communication skills

- Collaboration and healthy interaction with people and the world

- Critical thinking skills to make ethical judgements and decisions

- Creative thinking skills to foster innovation for the sustainable development of the nation and world

It should be noted that the statement was developed during the course on integrating 21 CS by the members of the team.

3

NEEDS ANALYSIS: PRIORITISING ALIGNMENT COMPONENTS

Brief context

Competency-based education (CBE) reform in Tajikistan has been ongoing since 2015 which started with a large GPE-supported project on introducing CBE in Tajikistan. The project was implemented by the Ministry of Education and Science (MoES), which developed a new generation of primary school standards for all disciplines. New subject standards were developed for Mathematics and Tajik Languages for grades 5–11. Extensive training materials for teachers were developed, and groups of teachers around the country were trained. However, many education professionals experience difficulties in accessing the materials or are not aware of them. Moreover, it is not clear to what extent the available materials communicate a harmonised vision of the CBE reform or whether this vision corresponds to the objectives set out in the National Strategy for Education Development for the period up to 2030 (NSED2030). The strategy refers to the following three priority measures in connection to this aspect of the reform:

1. Implement an effective system of professional development of teachers

2. Prepare competency-based and inclusive standards and teaching materials

3. Implement an effective system and institutional mechanisms for assessing the quality of education based on a competency-based approach

The curriculum revision process is not reflected in any document, nor is it part and parcel of the past reform. Going slightly back to the Soviet legacy, under which there was a unified curriculum titled 'учебный план' (direct translation: 'study plan'), this was largely designed and approved centrally. It did not incorporate assessment or pedagogies. Therefore, it can be imagined that the current Tajik education establishment suffers not only from the absence of proper curriculum and learning materials but also from irrelevance, and even more, from a lack of skills and knowledge

incorporated into it. After consulting with an education specialist from the MoES, it became clear that the curriculum was understood as a list of subjects to be taught rather than a learning concept based on principles, objectives and learners' needs.

As part of the course assignment, the team contacted people from the textbook centre to seek greater insight for the needs and curriculum analysis. The team found that the curriculum had been developed without adequate consultation with subject teachers and other experts; in fact, it was developed solely by textbook writers. As a result, the curriculum does not represent topics coherently for the most part, and topics are often poorly sequenced. The curriculum does not provide guidance to teachers and inspectors about what can be dropped if time is insufficient, inevitably leading to pressure on teachers to cover all topics equally, which is overwhelming to students. It also lacks room for reflecting competency development, although specialists at the textbook centre mentioned that this is done at the teacher-level.

The team learned that curriculum development should be viewed as a process by which meeting learners' needs leads to improvement in student learning. Therefore, curriculum developers and textbook writers should gather as much information as possible regarding learners' needs. Those who are affected by the curriculum should be involved in the planning and implementation processes. Moreover, students should also be engaged in the process of developing the curriculum; their opinions, demands and preferences can be uncovered through questionnaire surveys and then be incorporated into the curriculum. Undoubtedly, the effectiveness and efficiency of the newly-designed curriculum must be assessed. For the team, needs analysis was an initial step conducted to have a closer look at the existing curricula. As demonstrated in Table 1 below, ten priority steps were analysed for Tajikistan; more than half of them are currently ongoing with only three main dimensions not being undertaken so far. The Ministry of Education and

Science of Tajikistan has recently initiated the development of new standards for the curriculum in higher education levels. As for primary and secondary education, new standards have already been developed for the former with the latter now under review and designed within the projects of the Competency-based Education reforms.

Table 1: **Working template for the Tajik curriculum needs assessment**

Priority number	Step	Status
1	Audit existing curriculum.	Ongoing
2	Identify opportunities for skills in curriculum.	Ongoing
3	Integrate and layer skills into curriculum.	Ongoing
4	Audit existing assessment(s).	Ongoing
5	Identify opportunities for skills in assessment(s).	Ongoing
6	Develop assessment(s).	Not undertaken
7	Review existing and potential classroom activities.	Not undertaken
8	Identify pedagogical strategies for enhancing growth.	Not undertaken
9	Develop teaching resources.	Ongoing
10	Review pedagogical training.	Ongoing

It is important to admit that the assessment was not done to the best possible quality because of time limitations and the team's limited engagement stemming from a novice understanding of the assignment and what it entailed.

The team took the Tajik Language curriculum to study because they wanted to know if the curriculum was horizontally aligned—that is, if there was a clear relationship between curricular content standards, resources, assessments and skill-building as intended. The team also wanted to know if the curriculum was vertically aligned in terms of mapping activities and proper allocation of resources which, if done well, would reflect a logical order for teaching content from one level to the next. Vertical alignment is important for understanding gaps within a curriculum.

4

SKILLS DEFINITIONS AND TEAM REFLECTIONS

Although the National Strategy for the Education Development (NSED) 2021–2030—the key document in the Tajikistan education system—outlines priorities for developments in the field of education, it does not provide a framework for 21 CS. Thus, the team chose to adopt the 21 CS definition and framework developed by ACER for collaboration, critical thinking and creative thinking skills. The definition and framework for the skill of communication was adopted from the Cambridge Life Competencies Framework. These four skills are mentioned in the NSED document as important skills to be instilled in learners. The skills definitions are described in more detail below.

Communication

Communication is an essential professional life skill enabling us to share information and ideas, as well as express feelings and arguments (Cenere et al., 2015). It is also an active process influenced by the complexities of human behaviour, in which elements such as non-verbal behaviour and individual styles of interpreting and ascribing meaning to events have significant influence.

Collaboration

Collaboration refers to the capacity of an individual to contribute effectively in a group. This involves perseverance, contributing to team knowledge, valuing contributions of others and resolving differences. Effective collaboration involves a division of labour with participants who are engaged in active discourse that results in a compilation of their efforts.

Critical thinking

To think critically is to analyse and evaluate information, and situations according to appropriate standards, such as truth and logic, for the purpose of constructing sound and insightful new knowledge, understandings, hypotheses and beliefs. Critical thinking encompasses the subject's ability to process and synthesise information in such a way that

it enables them to apply it judiciously to tasks for informed decision making and effective problem solving.

Creative thinking

Creative thinking is the capacity to generate many kinds of ideas, manipulate ideas in unusual ways and make unconventional connections to outline novel possibilities that have the potential to seamlessly meet a given purpose.

TEAM REFLECTIONS

On collaboration skills

Taking a cue from the definition presented in the course, team member Mijgona defined collaboration as the ability to contribute to a group's mission/goal effectively and responsibly, particularly emphasising the role of participation in collaborative work. Mijgona highlighted that the quality of participation is much more important than the frequency of it. She noted that collaboration appears to be a very complex skill. To become a successful collaborator, one must uphold certain values, such as tolerance and respect, responsibility and compassion, and have such skills as communication, negotiation, leadership, problem-solving and adaptability.

Team member Parvina defined collaboration as group work based on the interaction of the members, which reduces competition between them. The course definition emphasised that group work is where the members have the joint goal of dividing the work equally between them. After watching the video, Parvina discovered that collaboration is based on shared understanding, collective contribution and regulation. In the definition, it is noted that each participant has a specific perspective, with distinct information, expertise and responsibility. Thus, everybody can make a unique contribution towards the fulfilment of a common goal through effective participation, acknowledging others' contributions and incorporating other members' perspectives into their responsibilities. In addition, every member monitors to what extent their contribution is relevant and constructive. Parvina

recognises that collaboration is mostly based on a sense of responsibility in which every participant is tasked with a specific job and if they fail to do it well, it will affect the result of the whole group.

On creative thinking

Team member Eraj concluded that creative thinking is in the realm of cognitive and instrumental dimensions. It can be difficult to teach students how to unpack ideas, talk about them and translate this talk into action. Of course, it greatly depends on teachers' know-how regarding approaches to help students acquire the necessary skills to become creative. Eraj's initial definition of creative thinking was 'thinking out of the box; looking at the same issue/problem with many lenses; connecting the dots'; a definition which he synthesised based on readings and his own engagement in the education sector. Eraj believes that creative thinking is a cognitive, inquiry-driven process/engagement with many possible outcomes. Sometimes, it can be a painful, and never-ending thinking process that can lead to a new, unknown area. However, creative thinking should be encouraged without fear of losing the initial starting point.

5

SKILLS AUDIT, ALIGNMENT TABLE AND HEAT MAP

5.1 Skills audit

Identifying and defining the delineated skills will facilitate a skills audit across different subjects. The prospective goal is to audit all the existing curricula at the primary and secondary education levels based on the example skill audit of the Tajik language and natural science subjects for grade 4 that was undertaken as part of this course. Although the notion and content of the curriculum in Tajikistan's educational system currently differs from what is employed in other educational models, the Tajik system of education is currently undergoing reforms, such as the competency-based reform initiated in 2015, particularly at the primary and secondary levels. As a result of the reform process, and in cooperation with development partners, the MoES has been developing several documents, such as the Primary Education Subject Standards, Teachers Guides for Grades 1–4, Subjects Learning Programmes, and the four following modules:

1. Competency-based System: Teacher's Guide
2. Lesson Planning Based on Standards, Textbooks and Appendixes: Teacher's Guide
3. Teaching and Learning Methodology in a Competency-based System: Teacher's Guide
4. Assessment in a Competency-based System: Teacher's Guide

These documents were the main sources used while leading the skills audit. In addition, teacher training guidance documents served as supplementary documents.

The skills specified in the mission and vision statement by the group will be audited in collaboration with curriculum experts from the MoES to give meaningful results. For the time being, the team carried out a preliminary audit of collaboration and critical thinking skills in two primary subjects for grade 4. The results of the audit demonstrated that textbook content is not aligned with competency-based teaching and its associated learning methodology and assessment. Although the textbooks include stories, texts and activities

reflecting aspects of collaboration/critical thinking/creative/communication skills adopted from the ACER Collaboration Skill Development Framework, the 'study plan' document does not cover these aspects, and thus, pedagogy and assessment are not addressed. As such, skills integration is left to teachers; the supplementary documents mentioned above were specifically developed for teachers to teach using a competency-based model that includes the development of 21 CS skills by adapting existing textbooks' content.

At this point, it would be vital for the team to have assessed the competencies and capacity of primary teachers concerning the integration of 21 CS skills. As part of the strategic plan, the team could meet with the Teacher Development Unit of the MoES to discuss these aspects and take further steps.

5.2 Alignment table

The table below illustrates the alignment between the three main components including curriculum, assessment and pedagogy.

Adopted by ACER, curriculum, assessment and pedagogy meaningfully incorporate critical thinking, creative thinking, collaboration skills and communication skills into the learning process. Currently, each of these components is missed in educational policy. Although 21 CS are implicitly present, contextualised learning outcomes for the four skills in the primary-level textbooks could be included explicitly in the curriculum. The use of the assessment criteria of high/mid/low measurements of each aspect of the four skills is highly recommended.

At the same time, there should be attention to aligning and adapting pedagogical practices to these skills. For example, the critical thinking aspect 'Identifying gaps in knowledge' could be taught through reading extensive materials, writing

short essays or stories and using activities such as 'You name it (three places, three things, three people)' and 'What would happen if…?' Teaching strategies such as these would be more tangible, and thus, could be assessed more practically by teachers. With the learning outcomes in mind, the teacher could then assess students' progress according to the following three level measurements:

- *high* learners, those who demonstrate the ability to analyse the information, see gaps in the knowledge they possess and strive to remedy them; before accepting new information, they carefully investigate it;

- *mid*-learners, those who possess the ability to analyse the information, realise the drawbacks in their knowledge

and consolidate them by learning extra materials; mostly, they carefully explore the information before accepting it; and

- *low* learners, those who do not realise the gap in the existing knowledge and do not make efforts to make it up; their ability to analyse is not developed.

Once collaboration is set between the team and MoES, the team could inform policymakers of the main alignment components to better understand and integrate 21 CS skills into the ongoing national curriculum reform. Table 2 below demonstrates how this process could be conceptualised.

Table 2: A framework for 21 CS alignment

Skill	Aspect	Curriculum	Assessment	Pedagogy
		Learning outcome	Assessment criteria	Teaching strategy
Collaboration	**Aspect 1.1** **Communicate with others**	Personal Potential Development Element: Social adaptability Sub-element: Develop a sense of responsibility and shared understanding	**High:** Learners respond to requests, contribute communicatively to group, identify a common goal, demonstrate tolerance, respect, and responsibility. **Mid:** Learners respond to requests but sometimes fail to contribute to the realisation of the common goal; they demonstrate tolerance. **Low:** Because of disunion, learners fail to reach the common goal.	Assign group projects, presentations and performances, and involve students in volunteer activities.
	Aspect 3.2 **Resolves differences**	Personal Potential Development Element: Social adaptability Sub-element: Avoid conflicts, look for options and alternatives to solve a problem	**High:** Learners prioritise the benefit of the group, consider the needs and demands of all the members and ease any possible tension. **Mid:** Learners realise what is of paramount importance for their group, and respect everybody's perspective; however, conflicts sometimes occur. **Low:** Learners fail to identify the cause and outcome of conflicts, and do not always manage to prevent clashes of interests.	Create complex activities and transparent roles, and teach learners how to give and receive feedback.

Skill	Aspect	Curriculum	Assessment	Pedagogy
Critical thinking	**Aspect 1.1** **Identifies gaps in knowledge**	Improving Critical Thinking Element: Analysis and exploration of existing and incoming information Sub-element: Question the facts, examine the information from different points of view	**High:** Learners show the ability to analyse the information, see the gaps in the knowledge they possess and strive to make them up; before accepting new information, they carefully investigate it. **Mid:** Learners possess the ability to analyse the information, realise the drawbacks in their knowledge and address them by learning extra materials; mostly, they carefully explore the information before accepting it. **Low:** Learners do not realise the gap in existing knowledge and do not make efforts to make it up; the ability to analyse is not developed.	Use extensive reading materials, and assign students to write articles and essays to develop analytical thinking skills. Activities, such as 'You name it (three places, three things, three people)', 'What would happen if…?', 'Explain yourself …'
	Aspect 2.3 **Justifies arguments**	Improving Critical Thinking Element: Referring to sound evidence Sub-element: Provide reasonable facts to support one's argument, analyse its relevance	**High:** Learners demonstrate sound reasoning, are able to stand up for their assertion and support it with facts; they can predict possible outcomes and the limits of their presumptions. **Mid:** Learners almost always support their assertions with plausible evidence and try to stand up for their ideas; sometimes, they fail to acknowledge limitations of own presumptions. **Low:** Learners face difficulties while providing plausible facts in support of their ideas; they mostly fail to rebut challenges to their argumentation.	Teach consistency by organising debates, presentations on various topics, teach the basics of writing a five-paragraph essay.
Creative thinking	**Aspect 2.2** **Manipulating ideas**	Formation of Creative Thinking Element: Ability to consider various possibilities Sub-element: Combine ideas to open new possibilities	**High:** Learners generate new ideas, are able to combine various perspectives to find a new solution to a problem, and welcome all ideas and avoid criticising. **Mid**: Learners generate new ideas, try to combine various perspectives to find a new solution to a problem, and welcome all ideas, sometimes criticise. **Low:** Learners find it challenging to generate new ideas, and fail to combine various perspectives, disparage individual ideas.	Include activities that encourage curiosity such as '3 in 1', developing an elevator pitch, hosting a historical figure talk show, using music, arts, and handicrafts.

Skill	Aspect	Curriculum	Assessment	Pedagogy
	Aspect 3.1 **Fitness for purpose**	Formation of Creative Thinking Element: Relevance and benefit Sub-element: Evaluate and analyse a wide range of ideas	**High:** Learners evaluate ideas, make up a checklist, make good use of time, and consult specialists (a parent, friend, a teacher). **Mid:** Learners weigh facts, appraise ideas using a checklist, sometimes exceed the deadline, and sometimes rely on the opinion of a person who is not an expert. **Low:** Learners face problems while evaluating ideas, do not use a checklist, procrastinate on the project, and do not consult a specialist.	Teach students not to be afraid of making mistakes, being criticised or facing hostility Introduce the biographies of famous people, such as Thomas Edison and Walt Disney

The pedagogy and assessment shared here is just an example, and again, the team will seek collaboration with the MoES to reflect on these points and introduce contextualised changes. In addition, the team will rely on fruitful cooperation with the MoES to give access to other definition documents, if any, to fill the gaps in aligning all the components in 21 CS integration at this point.

5.3 Heat map

As part of the course task, the team developed a system-level heat map (see Table 3 below) and included the following seven core skills: literacy, numeracy, ICT capability, communication, collaboration, critical thinking and creative thinking skills. It should be noted that skills allocated this way are not based on formal statistical consideration or research results and not even as the result of the skill audit undertaken by the course members. Rather, they are allocated as a desirable picture of what the team would like the curriculum to consider in the future. The heat map will change over time as data on the coverage of the skills becomes available. The heat map prioritises literacy through all subjects taught at the primary and secondary levels. Numeracy and ICT capabilities will most likely appear similar, with the former demonstrating high coverage in algebra, geometry, information technology, physics, chemistry, biology, geography and design technology while the latter will show the same coverage for all subjects except physics, chemistry and biology, which is medium coverage.

The four C's are embedded in humanities subjects to a greater extent because the goals and objectives of such school subjects as languages, history, literature and law already embrace aspects of communication and collaboration skills. As such, the team has indicated high coverage of these skills in the heat map. However, this does not mean that these same skills will be missed in the natural sciences. Physics, chemistry and biology would still have high coverage of collaboration skills because these subjects ideally require project and laboratory work that exposes learners to collaboration. Collaboration and communication within the spectrum of these subjects would also require an aligned approach. The skills should become a conscious part of these subjects' curricula with pedagogy and assessment in place.

Critical thinking is covered in literature, history and law; the rest of the subjects will also include critical thinking, although less so than in geography and design technology. Creative thinking is the only skill that will be covered less in these subjects. For the natural sciences, except for the subjects of geometry and informatics, creative thinking has low coverage.

Table 3 : Heat map for 21 CS in Tajikistan

General capabilities	Tajik Language	Russian language	English Language	Tajik Literature	General Tajik history	Law	Algebra	Geometry	IT	Physics	Chemistry	Biology	Geography	Design and Technology
Literacy	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Yellow
Numeracy	Yellow	Yellow	Yellow	Yellow	Green	Yellow	Green	Green	Green	Green	Green	Green	Green	Yellow
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

Legend:
- Green — High coverage: 90%–100%
- Yellow — Medium coverage: 50%–89%
- Orange — Low coverage: 10%–49%
- Red — No coverage: 9% or less

6

STRATEGIC PLAN

The learning process on the integration of 21 CS encouraged the team to understand and reflect on the current status of the Tajikistan education system. The team attempted to identify the gaps in skills integration into the system and tried to delineate possible ways to fill those gaps. As a result, the key steps outlined below are suggested as one of the possible options for the 21 CS integration task. These steps are not set in stone and can be reconsidered and amended as needed in the future.

Step 1: Complementing the core team

There were some limitations that inhibited the current team from making more progress in the task of 21 CS integration. As such, the existing core team needs to add additional experts to the team. To make the collaboration more productive and successful, it is vital that new members are invited to join the team based on the following criteria:

- Members have expertise in curriculum development, assessment and pedagogy
- Some members are representatives of the MoES of Tajikistan, which would give access to necessary resources and data and move the integration task forward at the national level. This means inviting and encouraging the MoES to involve its representatives and experts in curriculum, assessment and pedagogy by attending the 'Integration of the 21st Century Skills in the Curriculum' course and taking part in the development and implementation of a strategic plan

Step 2: Refining mission and vision statements

After building up the team, the second step for the new team is to refine the mission and vision statements. Since there is no document that explicitly sets the vision and mission for 21 CS's integration into the education system, the team needs to review and refine the mission and vision statements that were developed as part of a task at the beginning of this course. For validation purposes, the NSED policy document should serve as a basis for refinement of mission and vision statements. The team can consolidate the priorities set in the current education system and its mission into vision and mission statements to reflect the vision of the country, particularly in relation to prioritising and integrating skills. This task has not yet been undertaken, and thus, it should be one of the steps in refining the mission and vision statements.

In addition, to ensure the feasibility of the mission and vision statements, the context of Tajikistan needs to be analysed and understood. Before defining improvements in skills integration and ways to achieve them, the team would need to know what has been done so far in relation to 21 CS integration.

Step 3: Adopting skills definitions and frameworks

As part of the course, the team decided to adopt the skills definitions and frameworks suggested by the ACER and the Cambridge Life Competencies Framework. To drive the 21 CS integration agenda, the adopted list of skills needs to be revised, including the skills definitions and frameworks, so that they are applicable to the Tajik context.

Step 4: Prioritising alignment components and skills integration implementation

Considering the outcomes of the needs analysis of alignment components, the steps listed below need to be undertaken.

a. Curriculum

The team needs to develop knowledge of the outcomes of the curriculum audit that has been undertaken by the education sector starting in 2015. Based on the outcomes, the team can identify the skills gaps in the curriculum and then attempt to integrate the necessary skills into the curriculum. Since some work has been done on this by the MoES, the team

would benefit from consultations with respective experts and prepare the skills integration plan in close collaboration with them. The curriculum audit and skills integration will then serve as a benchmark for improving the assessment component.

b. Assessment

Currently, there is no ideal method to assess skills such as collaboration and critical and creative thinking. These skills can hardly be assessed with the marking system (from two to five) that is currently in use in the education system. Therefore, assessment approaches and tools need to be developed to ensure objective assessment of skills and integration into the curriculum. It would be beneficial to perform this task in collaboration with experts from the National Test Centre, who have the required expertise in the field of assessment.

c. Pedagogy

Based on the outcomes of the curriculum and assessment components, appropriate pedagogy will need to be developed. To achieve this, the team will need to work closely with pedagogical experts, including school teachers, to identify effective strategies for 21 CS learning to apply in the classroom. Furthermore, with the aim of raising awareness about 21 CS integration, continuous professional development will be needed for teachers and other relevant stakeholders. In addition, skills integration should be implemented broadly on a system level.

Step 5: Monitoring

All the development and application processes should be constantly observed and checked with the purpose of providing further support to stakeholders in the 21 CS integration agenda.

LESSONS LEARNED

By attending the Learning Cycle, 'Integration of 21 Century Skills in the Curriculum', the team realised that the system of education in Tajikistan has limitations in several areas which require the investment of expertise, time and funds to be able to provide quality education for learners. Writing mission and vision statements seemed to be challenging for the team, but thanks to the contribution of competent course participants, the team was able to create a good mission statement. The team learned how to conduct a needs analysis, prepare a skills framework and develop a heat map. However, the tasks were not easy to perform due to the lack of necessary materials in the system. Moreover, the definitions and frameworks on creative, critical thinking and collaboration skills were helpful in expanding the team's understanding of these skills. Thanks to the course, the team is now aware of the achievements of colleagues from other countries. For instance, the team was impressed with the results of the integration of 21 CS in Moldova. Moreover, there was a good opportunity to collaborate with people with different experiences in the field of education in Tajikistan.

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GP▲ KIX EAP HUB
KNOWLEDGE INNOVATION EXCHANGE

20, Rue Rothschild I P.O. Box 1672
1211 Geneva 1, Switzerland
+41 (0) 22 908 45 47
norrag.kix@graduatenstitute.ch

@KIXEAP

norrag.network

norrag.org/kix-eap

gpekix.org/regional-hub/kix-eap