Summary report of the meeting on fostering and assessing students’ creative and critical thinking skills in higher education and teacher education

6-7 September 2018
OECD Conference Centre, Paris, France

On 6-7 September 2018, the OECD Centre for Educational Research and Innovation (CERI) organised the first international meeting of the higher education strand of the project “Fostering and assessing students’ creative and critical thinking skills in education”.

This document summarises the meeting discussions.

The purpose of the meeting was to start discussing the conceptual framework, research design and practicalities of implementation of the project with interested higher education institutions.

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Summary of Action Points

- The Secretariat will make available the presentations made during the meeting and provide detailed estimations of the expected workload for participants.
- Interested institutions will make their final decision to participate in the project by the end of September 2018.
- Institutions will share more information about their interests, expectations and resources with regard to the project and the pedagogical intervention, including through an ad-hoc survey.
- The Secretariat will develop the research protocol and more detailed proposals for the higher education and teacher education strands of the project based on the interests of participating institutions.
- The Secretariat will make available some of the tools (e.g. rubrics, questionnaires) developed for the pilot phase of the project in primary and secondary education.
- Committed institutions will send feedback on the research protocol and draft tools and share relevant materials that could inform their further development.
- The Secretariat will organise one or two webinars with committed institutions before the end of 2018. The next face-to-face project meeting with committed institutions will take place in the first semester of 2019 in Paris.
Summary Report

First International Meeting
“Fostering and assessing students’ creative and critical thinking skills in higher education and teacher education”
OECD Centre for Educational Research and Innovation (CERI)
6-7 September 2018,
OECD Conference Centre, Paris

Day 1 – Thursday 6 September 2018

1. The first day of the meeting focused on discussing the starting points of the project as well as participants’ interests and experience in fostering and assessing students’ creative and critical thinking skills in higher education and teacher education. It consisted of several presentations by the Secretariat, participants and experts. Discussions about the conceptual and operational aspects of the project followed each intervention.

Session 1: Welcome and presentation of the project

2. In the first session, Stéphan Vincent-Lancrin, project leader at the OECD Secretariat, introduced the general framework and objectives of the project. He presented the background of the project, namely the work on skills for innovation and the work on creativity and critical thinking conducted in primary and secondary education which took place in 11 countries between 2015 and 2018 and involved more than 300 schools, 650 teachers and 17,000 students. It paved the way and informed the framework for “creative thinking” to be the innovative assessment domain of PISA 2021.

3. Stéphan Vincent-Lancrin outlined the model of change of the project and laid out the two main questions it seeks to answer: what do we mean by creativity and critical thinking in a formal education setting and how do we foster and assess these skills? He also recalled the essence of the project as an institutional development project built on the following core principles: the pursuit of a common objective, the co-design of pedagogical resources and the pedagogical freedom of participants.

4. In the following discussion, participants raised several questions with regard to the methodology and the practicalities of the project. A number of participants asked about the disciplines to select, the sample of faculty members and students to establish and the possible ways to make comparisons. Stéphan Vincent-Lancrin clarified that the domains of intervention and the number of faculty members and students will depend primarily on the interest and capacity of participants. While large groups would be very welcome for analytical purposes, the project does not exclude smaller groups of students and teachers. More fundamentally, as the project is in its pilot phase – before a potential validation phase starting in 2022 – its first benefit lies in the pedagogical resources the project seeks to develop and pilot and the qualitative findings it will generate. In this respect, although there is a need for some comparability to allow for the emergence of a fruitful community of
practice, comparisons will only aim at expanding our understanding of the ways institutions improve their teaching practices and not at ranking participants based on their performance. In the same vein, the required sample sizes are primarily set to ensure a meaningful discussion within and between countries taking into account staff and student attrition. The project does not require samples of students and faculty members that would be representative of their institution or their country.

5. Participants raised additional questions with regard to the practicalities of the project such as the level of institutions’ contribution to the international costs, the release of the research protocol and the publication opportunities for participants. Stéphan Vincent-Lancrin reaffirmed the intent to keep costs for institutions to a minimum so that they are not a hurdle to participation. For this purpose, the Secretariat is willing to help institutions in their search for financial support by reaching out to their government or any other relevant stakeholder. Furthermore, there is the possibility for institutions to form national consortia in order to lower their individual contribution.

6. Lastly, several participants inquired about the research and publication opportunities that may arise from the project. In this regard, institutions will be free to use their local results for research and publication purposes keeping in mind that the OECD will publish some of the project results first. Institutions may disclose other elements and additional findings at different timelines. As a rule, participants intending to publish some of the project results should first consult the Secretariat to reach a mutual agreement.

Session 2: Creativity and critical thinking: some definitions, theory and practice

7. The second session focused on the conceptualisation and approaches to creativity and critical thinking. It started with two presentations of the definitions of those concepts and their implications for education. A third presentation introduced the conceptual framework of the project and the OECD rubrics.

8. Robert Kelly from the University of Calgary (Canada) presented a model for translating creativity into education by making the distinction between creativity, creative capacity and creative development. He highlighted the importance of collaborative development in fostering creativity, the necessity to sustain growth in creative development throughout multiple years, and the key role of experimentation and prototyping phases as creativity is an active process. He also discussed the challenges this implies for assessment and argued for a cultural shift moving from assessment of learning to assessment for learning and, ultimately, assessment as learning.

9. Daniela Dumitru from the University of Bucharest (Romania) gave a presentation on the different approaches to critical thinking in education. She provided participants with an overview of the philosophical conceptions of critical thinking as well as the related concepts prevailing in the literature. She further emphasized the different approaches and strategies to foster critical thinking through teaching and underlined its main dimensions as a disposition and as a skill. Finally, she questioned the transferability of this competency across domains.

10. Stéphan Vincent-Lancrin presented the conceptual framework that allowed for the development of the OECD rubrics on creativity and critical thinking during the first phase of the project in primary and secondary education. After covering the main definitional elements of those two concepts, he presented the rubrics as tools to enable their integration into teaching and assessment practices. He emphasized the different declinations of rubrics (comprehensive, class-friendly, domain-specific, assessment) as well as the various ways
to use them: for (re)designing teaching activities, for assessing student work, as a tool for reflection, etc. The possibility for the group or individual participants to adapt the rubrics was also underlined.

11. In the following discussion, several meeting participants expressed their interest in working on both creativity and critical thinking. They underlined several aspects such as the importance of recognising the connection between the two concepts; the value of rubrics in enabling metacognition and the limited transferability of creative and critical thinking skills across domains. Participants also supported the distinction between products and processes and the need to take into account elements such as attitudes and values, tolerance toward risk and failure and ecological as well as organisational factors when conceptualising creativity and critical thinking.

12. Finally, participants noted that the rubrics would need to be adapted to different domains of higher education and teacher education and that these tools would not be enough to meet the goals of the project. Stéphan Vincent-Lancrin concurred with this last argument by arguing that rubrics must be supplemented by a wider range of resources, such as exemplars of activities, assessment methodologies and student work. This will help build a tangible representation of what it means to foster creativity and critical thinking in higher education and teacher education.

Session 3: Information of ongoing OECD projects on higher education

13. The third session covered ongoing work on higher education carried out at the OECD Directorate for Education and Skills and at the Centre for Entrepreneurship. It consisted of four short presentations from the OECD Secretariat.

14. Thomas Weko presented the reviews of national higher education systems and policies conducted at the OECD. He underlined the difficulties for external stakeholder to know and understand better the processes that take place in higher education as well as the lack of indicators and data on the outputs and outcomes of those processes. He reemphasised the principle of autonomy that lies at the heart of most higher education institutions in OECD countries and the imperative for government to avoid harming the systems through inappropriate policies.

15. Shane Samuelson presented the work on enhancing higher education systems performance. This comprises a benchmarking initiative at the level of systems – not institutions – using various metrics and information on policies and practices. She highlighted the significant gap that prevails with regard to learning outcomes achievement and the need to investigate further students’ development of non-cognitive skills in higher education.

16. Dirk Van Damme presented the collaboration between the OECD and the CAE (Council for Aid to Education) to trial the use of the CLA+ assessment of generic skills in several countries to assess students’ learning outcomes in higher education.

17. Lastly, Raffaele Trapasso introduced the HEInnovate programme, a joint initiative of the OECD and the European Commission. HEInnovate aims to support institutions in creating value for the society and the economy through a framework built on three lines of work: an online assessment tool open to all institutions, country reviews and a policy-learning scheme.
Session 4: Pedagogical approaches to fostering creativity and/or critical thinking: some institutional examples

18. In the fourth session, five institutions presented some of their existing pedagogical practices aiming at fostering their students’ creative and critical thinking skills.

19. Katja Hölttä-Otto provided an overview of Aalto University (Finland), which aims at educating game changers. She focused more specifically on Aalto’s engineering programmes and its Design Factory that was created 10 years ago. The aim of the Design Factory is to teach creativity methods through multidisciplinary courses and problem-based learning with open-ended tasks. The customisation of its facilities with laboratories, flexible spaces and a diversity of tools encourages students to practice hands-on experimentation. Aalto University does not have a unique way to evaluate students’ creative skills: it assesses design projects in reviews of both products and processes, evaluators measure the level of creativity through the number, the novelty and the variety of ideas, and project sponsors often take part in the assessment process.

20. Janette Hughes and Diana Petrarca outlined how creativity and critical thinking are incorporated into teacher education programmes at the University of Ontario Institute of Technology (UOIT) in Canada. As a STEM-oriented institution, the aim of teacher education at UOIT is to educate “thoughtful, well-informed and socially responsible educational leaders”. To achieve this goal, the institution designed education programmes around several principles. These include a large focus on the use of technologies for improved practice coupled with the cultivation of “Digital critical literacies” and the integration of an artistic and creative component into curricula, thereby shifting from a STEM to a STEAM orientation. In addition to changes in programme orientation and curricula, UOIT seeks to foster creative and critical thinking skills through a variety of courses and activities: the organisation of “Maker days”, the encouragement of problem-based learning focussed on real issues, and the animation of a network of schools to support on-site teacher candidates in their implementation of maker pedagogies.

21. Deborah Corrigan and Ouahiba Zarzi from Monash University in Australia presented the way their institution fosters creativity and critical thinking in teacher education. Monash University implemented several initiatives in pursuit of this goal: digital story telling approaches, design-thinking workshops, inquiry-based learning by working within schools on research projects, student immersion in their future professional environment as they work on solving real problems that companies are facing, etc. Through their experience, they highlight the collaboration with industry and students’ interaction with external stakeholders as key elements to foster the learning process, as well as the need to engage in interdisciplinary learning.

22. Tobias Heiberg from University College Copenhagen (UCC) in Denmark presented how his institution intends to change the culture of the education system by adjusting their learning methods and environment through the adoption of innovative practices. Teacher education at UCC aims at educating “Future Classroom Teachers” through the “Future Classroom Lab” programme that has been generalised across the whole department of education and allows teacher students to experiment and create new pedagogical activities. For that purpose, UCC initiated a vast transformation of the learning environment with informal and comfortable working spaces encouraging hands-on experimentation and design as well as game-based learning. This evolution is experimental for the institution. With a new collaboration with the Lego Foundation under the “Playful Learning” programme, UCC aims at generating and anchoring successful examples of innovative
education practices across Denmark by collaborating with other university colleges and reaching out to every student in Danish teacher education.

23. Lastly, Congman Rao from Northeast Normal University in the People’s Republic of China provided an overview of how his institution seeks to prepare high-quality teachers through creativity-oriented education programmes. For that purpose, Northeast Normal University has implemented a reform of its education practices toward the provision of more choices to students in order to foster self-directed learning. Additionally, the institution fosters students’ creativity through inquiry-based learning and cultivates their habits for critical reflection through general education and multiple-perspective thinking. The educational reform translated into several changes in curricula, as all preservice teachers are now required to follow courses in mathematics and logical thinking while freshmen must take part in a specific seminar that encourages the shift from passive and receptive learning toward active learning. Educational and assessment practices at Northeast Normal University now include problem-based and project-based learning as well as formative assessment. Finally, the university further developed student practice in real school settings through a partnership with the government and the schools and the incorporation of teaching practices into students’ research projects allowing for reflective thinking and growth in open-mindedness.

24. After the five presentations, participants discussed further the educational implications of fostering and assessing creativity and critical thinking. They highlighted two aspects in particular: the need to initiate a cultural change in education systems and the difficulty of assessment. In the light of the examples portrayed in the five presentations, several participants emphasised the importance of factors such as play, risk and failure in the learning process. As of today, those elements are insufficiently recognised in educational systems and professionals are still unsure as to whether they are allowed to encourage them. Taking up this challenge requires a change in the culture of organisations and systems. The question that flowed naturally from this consideration was therefore the following: how can we go beyond preaching the converted and reach buy-in on a larger scale? Stéphan Vincent-Lancrin indicated that this was precisely the aim of this project and its model of change. Based on the experience of the work in primary and secondary education, starting with the implementation of innovative practices with already convinced people is a good way to lay the foundations to move to the next step of reaching a larger amount of professionals.

25. With respect to the measurement of creativity and critical thinking, presentations as much as discussions shed light on the challenges associated with designing valid and reliable assessments. Developing assessments frameworks and instruments is particularly important to support practices and activities, to make the implicit explicit and to generate compelling findings. Participants agreed that the assessment of creativity and critical thinking should not only rely on self-reports but can ideally involve several assessment methodologies simultaneously.

Session 5: Initiatives on fostering and assessing creativity and critical thinking

26. The final session of the day focused on related initiatives undertaken in other countries or by other organisations. It was also the opportunity to reflect on this first day of the meeting with two presentations reflecting on the discussions of the first day.

27. Mathias Bouckaert from the OECD Secretariat presented a review of higher education policies aiming at promoting creativity and critical thinking across OECD countries and beyond. He highlighted that while national, as well as international, policy
agendas often identify critical thinking and creativity as key skills for the future of economies and societies, they seldom mention means to foster these skills in higher education. Although there is a need for further research on this topic, most of the national and international policies also fail to rely on several known aspects of efficient strategies to pursue this goal.

28. Caroline Dominguez from the University of Trás-os-Montes and Alto Douro in Portugal provided participants with an overview of the CRITHINKEDU project funded by the European Commission. Taking place within a community of practice gathering participants from 9 countries and 11 institutions, this project investigates the ways to foster critical thinking in higher education. Ultimately, its goal is to develop quality guidelines for critical thinking education in European higher education. CRITHINKEDU first administered surveys to professionals in public and private organisations to understand better their views of critical thinking. Then, the project analysed how higher education institutions actually foster this competency in various disciplines. This work allowed highlighting gaps between how critical thinking was viewed in academia and by professional employers. In a third phase, the project identified guidelines for quality assurance systems. The project main findings include the importance of recognising the dispositional elements of critical thinking, the difficulty of its assessment and the need to cultivate this competency with students in a systematic way.

29. Susanne Schmidt from Johannes Gutenberg University Mainz in Germany presented the KoKoHs research programme funded by the German Ministry of Education and Research. This programme seeks to establish a common and operational understanding of the outcomes of educational processes in term of competencies and, subsequently, to develop valid assessment methodologies for the measurement of student achievements. Its first phase encompasses 70 experimental initiatives for the assessment of learning outcomes in several disciplines and more than 50 institutions spread throughout the country. Susanne Schmidt also outlined the iPal international project that started in 2016 in Germany, Finland, the United States and Columbia. Its objective is to enhance dialogue and research on the assessment of 21st century skills, among other through the trial of a new assessment framework for measuring critical thinking in higher education.

30. The two last presentations aimed at reflecting on the discussions of the day and drawing some lessons for the future of the project. Davide Parmigiani from the Association of Teacher Education in Europe (ATEE) and Andrée Sursock from the European University Association (EUA) gave those presentations.

31. Davide Parmigiani recalled the main goals of the project and highlighted two important challenges to take up. The first one relates to the organisational issues that may arise during the intervention given its multi-dimensional focus. This will require building strong relationships between institutional stakeholders (mainly student, faculty members, and central administrations) and with external partners (from professional fields or schools). Flexible organisational settings will be valuable to facilitate this endeavour. The second challenge lies in didactics. Fostering both creativity and critical thinking requires investigating questions related to multiples dimensions such as individual and collective development, multidisciplinary learning or dispositions and skills. In this respect, providing supportive learning environments will constitute a cornerstone of the success of the intervention.

32. Andrée Sursock discussed the outcomes of the first day of the meeting in light of previous projects she conducted within the EUA on the topic of creativity. In 2007, the EUA project “Creativity in Higher Education” enabled to emphasise that quality assurance
policies can hinder the process of enhancing creativity in higher education institutions. In 2009, the project “Improving Quality, Enhancing Creativity” recommended that Quality Assurance frameworks incorporate developmental approaches and avoid immediate sanctioning of failure. From this perspective, she highlighted the main strengths and challenges of the project as well as several questions. Among others, she underlined the positive aspect of bringing together creativity and critical thinking in a common framework. On the other hand, she advised to keep in mind the tension that may arise between those two objectives of the project and the challenging task of finding the right balance between them.

Day 2 – Friday 7 September 2018

33. The second day of the meeting focused on discussing the decisions that participants and the Secretariat will have to make with regard to several dimensions of the project. Those relate to a number of aspects such as the design of the pedagogical intervention, the components of the monitoring framework, and the organisation of the work internationally.

**Session 6: Preliminary remarks**

34. In this introductory session, Deborah Roseveare, Head of CERI and the Innovation and Measuring Progress division at the OECD Directorate for Education and Skills, welcomed participants and delivered some preliminary remarks on the role of CERI, the innovative nature of the project and the challenges it will have to take up. She drew three lessons from her own experience with the Assessment of Higher Education Learning Outcomes (AHELO) feasibility study that can be useful for this work:

- One of the main values of both initiatives lies in their orientation toward fostering dialogue on what we want to achieve in higher education and what we mean in terms of learning outcomes and competencies.
- An important challenge for this project will be to address the complexity of higher education systems worldwide. Nevertheless, the diversity of institutions also represents an important potential source of value.
- The heterogeneity of higher education institutions and systems will be a challenge. The project will need to be agile and consider differentiated approaches based on the specificities of the institutions.

**Session 7a: Project design, methods and timeline – Plenary presentation**

35. The session touched upon the different aspects of the project implementation and the main options to envisage. Stéphan Vincent-Lancrin first provided participants with an overview of the core elements of the project, the specificities of the pedagogical redesign (the intervention), the monitoring framework and the documentation of activities. In a second stage, participants split into two groups and discussed several questions related to the design of the project.

36. In his presentation, Stéphan Vincent-Lancrin outlined the role of the rubrics as a common tool and the starting point for the redesign of pedagogies within institutions. Beyond this shared perspective, faculty members will have full pedagogical freedom and should document their approaches and practices under a common template. Participating institutions will also need to develop plans for the accompaniment and professional development of faculty members.
37. In addition to the pedagogical aspects, the project aims at collecting data through a monitoring framework. Ideally, this framework would include pre- and post-tests and questionnaires administered to students and faculty members in intervention and control groups. Interviews and focus groups should be organised as well throughout the intervention period to complement the quantitative findings with qualitative evidence.

38. Besides the challenge of selecting a relevant methodology to assess creativity and critical thinking, the Secretariat is aware of the difficulty of implementing such a framework in different institutional contexts. Therefore, some aspects of the research protocol might be adapted in view of the specificities of individual institutions.

39. Stéphan Vincent-Lancrin raised several questions for participants to consider in the discussion. Those relate to three main aspects:

- The level of commonality to expect in the pedagogical intervention: In which disciplines and domains would participants like to work? What would be the unit of the intervention (course, programme)?
- The monitoring and documentation possibilities: Can participants mobilise control groups within institutions? What kind of test(s) could be used to monitor student achievements?
- The expectations of participants regarding the project and its results: Are participants mainly interested in the quantitative part of the work? Would they be willing to investigate more what is going on during the intervention? Would they be able to set up the related processes for data collection?

40. Participants then raised several questions with regard to the purpose of the study, the comparability of results, the common conceptual framework and the legal aspects of data collection. In his responses, Stéphan Vincent-Lancrin highlighted the developmental essence of the project. He recalled that its main value lies in the construction of a common understanding of what creativity and critical thinking mean and in the design of innovative pedagogies for higher education. The evaluation framework remains an important part of the project given the compelling outcomes it may lead to and in the perspective of a future validation study for which we would need monitoring instruments. With regard to the conceptual framework, it remains under discussion and will be adaptable by institutions as they see fit as long as they document this process. Furthermore, although we may foresee high disparities in the views of creativity and critical thinking, the experience in primary and secondary education allowed identifying a common framework that was acceptable to people from different cultures. Finally, the Secretariat will align the research protocol with existing legal frameworks for data protection and privacy but, ultimately, the responsibility for complying with national data protection and privacy legislation will lie with participant institutions.

Session 7b: Project design, methods and timeline – Group discussions

41. Meeting participants split into two groups to address questions raised in the previous session and discuss possible directions for the project. One group focused on the teacher education strand of the project and another on the higher education strand.

Discussion of the teacher education strand

42. Discussants of the teacher education strand debated mainly over the conceptual framework of the project. They highlighted the difference between teacher education and
higher education and questioned the relevance of using the same conceptual framework for those two strands. Yet, they emphasised the need to keep them together given the policy-oriented nature of the project. Moreover, participants discussed the purpose of the teacher education strand and the nature of the student as it is conceptualised: are we looking to educate future educators or current learners? In other words, do we want to raise the creativity of teacher students or rather to train prospective teachers to foster their future students’ creative skills? Some participants who took part in the first phase in primary and secondary education indicated that the project is primarily oriented toward the first option as it relies on the assumption that teachers’ creative skills are a prerequisite for their capacity to foster students’ creativity.

43. Discussants further considered the conceptual framework of the project through the lens of the rubrics developed during the first phase of the project. Some discussants pointed out additional elements that should be included in the rubrics. Participants from the first phase of the project clarified the purpose and design method of these instruments. The rubrics were developed through an extensive collaboration process (several years of discussion, experimentation and feedback) to provide teachers with a definition of creativity and critical thinking and operational guidelines to change their teaching practices. Besides, teachers were encouraged to refine further the rubrics as they became acquainted with the concepts and identified ways of improvement or adaptation to their context. Thereupon, discussants recommended providing more information on the history and purpose of the rubrics and their development before handing them to new stakeholders.

44. Discussants of the teacher education strand finally touched upon the issue of the disciplines or domains for the implementation of the intervention. They suggested considering pedagogical foundations and capstone modules in order to ensure a certain level of commonality between institutions and countries. Participants should discuss this issue further to gain a better understanding of the degree of similarity that they can expect from the various teacher education programmes and courses.

Discussion of the higher education strand

45. Discussants of the higher education strand debated over the disciplines and domains of intervention and the methodology for assessment and comparison. They also expressed their interest in getting more information about the practical aspects of the project.

46. With regard to the disciplines, participants noted that the project could draw on different level of commonality and comparability across institutions. It would be very interesting if participants could implement the intervention in a common domain, but there would also be much to learn if they implemented it in several domains. If possible, everyone should aim at working at least in one of the most widespread disciplines among the group to facilitate the international dialogue, while not being limited to that common denominator. At first sight, those would be engineering, business studies and medical sciences.

47. In addition, discussants raised several questions with regard to the use of rubrics, the assessment protocol and the level of comparability of the data collected. Participants also asked to have more information with regard to the resources they will need to mobilise and the implications the project intervention will have at the local level. The Secretariat will work on an estimation of the workload for both co-ordinators and faculty members. This may however vary based on the specific interests and ambitions of each institution.
48. The discussion allowed recognising the large diversity that prevails among the group as participants have different expectations. This diversity can prove to be very valuable for the discussion if common denominator(s) for all participants can be found. It also arose from the discussion that participants already share a strong involvement in teaching for creativity and critical thinking as well as a common interest to ensure that education practices effectively incorporate these goals. Continuing discussion should help everyone gain a better understanding of what others are doing and what they can do with this project.

**Session 8: Assessment challenges**

49. In this session, Stéphane Vincent-Lancrin outlined the assessment challenges the project will have to address. He recalled the purpose of assessment in the framework of the project as well as its difficulties and the will to reduce the burden for institutions. Several options remain open for discussion.

50. While students and faculty members will be required to complete pre- and post-questionnaires about their beliefs, dispositions and social and behavioural skills, the project could also build on Experience Sampling Methods (ESM) or related methodologies where it is possible. In addition, exemplars of student work should be collected and potentially shared among participants to gather feedback from external sources.

51. One method to assess students’ achievement and progression in creativity and critical thinking would be to create or select a standardised test that could measure those different skills at once. Another approach would be to use a semi-standardised method through which participants would develop local tests based on common guidelines (on the type of tasks, rating criteria etc.). This would allow for more domain-specificity and increased contextualisation of assessment practices. On the other hand, it would result in a lower level of comparability of data collected between institutions.

52. In the following discussion, participants expressed their interest in having some standardisation of testing. They highlighted the usefulness of this method in terms of comparability even though they acknowledged its insufficiency to capture more domain-specific matters. As a potential solution, some participants suggested using both methods of standardised and semi-standardised assessment of student achievements. This second option could be useful to measure progression in creativity. It could rely on criteria such as the number, uniqueness and originality of ideas, and on student self-report for dispositional elements (e.g. creative self-efficacy).

53. Participants discussed another question relating to the possibility of having control groups in the different institutions. Several participants emphasised that it could be difficult to constitute a control group for two main reasons. First, it could raise an ethical issue, as some students would benefit from a valuable intervention but not others. Second, some institutions plan to implement the intervention in specific programmes and do not have access to other students with sufficiently similar background that could form the control group. One direction the project could take would therefore be to work with intervention and control groups in institutions that have the possibility to have both while releasing this obligation in the others.

**Session 9: The CERI tablet application**

54. Gerri Burton from New Learning Ventures (United States) presented the main components of a tablet application developed for CERI and the functionalities it will
provide. Among these, she highlighted the teacher exchange platform and the potential for continuous research. For the project in higher education and teacher education, the app will be particularly useful to administer surveys and possible tests and to collect data. It will also draw on recent technologies to improve the efficiency of the data collection process (including a conversational chatbot, notification and message functions, etc.). It will fully comply with the GDPR and other regulatory guidelines with regard to privacy and security.

55. The following discussion focused on clarifications of the purpose and functionalities of the app. Participants raised questions on the topics of collaboration between teachers, raising students’ engagement and motivation, and taking advantage of the potential for alternative uses such as student self-assessment and the use of diaries to develop student portfolio.

Session 10: Workload, timeline and next steps

56. The last session aimed at providing participants with more information on the forthcoming work and at discussing the timeline of the project.

Workload for participating institutions

57. Stéphan Vincent-Lancrin gave indications on the workload of the project for faculty members and co-ordinators locally. He first outlined the tasks related to the pedagogical intervention and the use of the rubric. For this purpose, he highlighted the importance of holding induction sessions with faculty members that will implement the intervention and accompany them in the process of (re)designing their pedagogies. Participants should also document their pedagogical (re)design activities to generate insightful findings at the international level.

58. Besides, the Secretariat expects institutions to provide feedback on their experience with the rubrics and the tools shared as part of the project. This will allow for the continuous improvement of the project material. It could also ask for feedback on pedagogical activities or exemplars of student work coming from other institutions participating in the project.

59. Thirdly, participants should also take the time necessary to participate in the monitoring work. For faculty members, this includes responding twice to a 6-page questionnaire and possibly taking part in interviews and focus groups to share their experience. Depending on the final decisions made about assessment, it may also involve administering pre- and post-tests to students as well as organising focus groups with them. Participants should also need to take into account the translation costs of tools and materials if they are not from an English-speaking country.

60. In the discussion, participants provided several suggestions and asked for further clarifications. Those related to the number of data point in time we seek to have, the amount of time that will be required from students and the nature of the intervention: should it be precise short-term activities or rather larger and more open initiatives? On this last question, Stéphan Vincent-Lancrin suggested to have large interventions at the level of a course. The difference in interventions between institutions constitutes an important source of value of the project. Nevertheless, a diverse set of smaller and more precise activities would also be an interesting intervention to study. This will have to be decided based on the interests of participating institutions.
Timeline and next steps

61. As the initial timeline of the project will be difficult to meet given delay in the enrolment process, a new timeline was proposed.

62. The discussion will continue during the last three months of 2018 along with the gathering of commitments from institution and the finalisation of the research protocol of the project. This will be a collaborative process and take into account the interests and expectations of committed institutions, as well as existing practices they would like to incorporate into the work. The Secretariat will share the conceptual framework and the rubrics with institutions and collect their feedback to ensure that we have a common ground for the project. Besides, the decisions taken on the evaluation and monitoring framework will guide the development of assessment instruments.

63. Fieldwork could ideally start during the second semester of the current academic year in the Northern hemisphere through induction workshops with faculty members and tool and instrument development (e.g. adaptation of rubrics and data collection instruments, syllabi and assessments redesign). The actual field work with students and the contextual data collection (e.g. questionnaires, and eventually tests) should start in the 2019-20 academic year (September 2019 for the Northern hemisphere). Final dates shall be determined based on institutions’ academic calendar. Some participants highlighted the importance to plan the intervention several months in advance, especially if it implies to implement changes above a certain level (units and programmes).

64. The next face-to-face meeting of participant institutions should take place in the first semester of 2019 depending on the profile and availabilities of committed participants. In the meantime, the Secretariat will circulate the project materials to participants – rubrics, exemplars of questionnaires and lesson plans, detailed proposals for the two strands of the project – to collect feedback and fine-tune the design of the protocol.

65. Stéphan Vincent-Lancrin thanked everyone for attending the meeting and contributing to the advancement of the project.

66. Close of the meeting.
Annex A. List of participants

Please note that countries listed below only indicate the origin of the participants. Participants are not necessarily delegates representing their countries.

Argentina
- Ms. Violeta VAINER, Founder Headmistress, Escuela y Jardin de Infantes del Jacaranda

Australia
- Ms Deborah CORRIGAN, Director, Education Futures Faculty of Education, Monash University
- Ms. Ouahiba ZARZI, Senior Business Development Manager, Development and External Relations Faculty of Education, Monash University
- Ms. Anne HARRIS - via video conference call - Associate Professor, Research Fellow School of Education / Design & Creative Practice ECP / Digital Ethnography Research Centre, RMIT University

Brazil
- Ms. Andrezza BRANDÃO BARBOSA, Third Secretary, Brazilian Embassy to France
- Mr. Ricardo Manuel HENRIQUES, Superintendente Executivo, Instituto Unibanco
- Mr. Cesar Augusto Amaral NUNES, Project Leader Innovation and Solutions, Instituto Unibanco

Canada
- Ms. Alenoush SAROYAN, Professor Department of Educational and Counselling Psychology, McGill University
- Ms. Jennifer ANDERSON, Professor at the Faculty of Education, Memorial University
- Ms. Jennifer ADAMS, Canadian Research Chair in creativity in Science and STEM Education, University of Calgary
- Mr. Robert KELLY, Associate Professor, Faculty of Arts, Academic Coordinator of Collaborative Creativity & Design Thinking for Innovation, University of Calgary
- Ms. Janette HUGHES, Associate Professor, Assistant Dean, Research Faculty of Education, University of Ontario Institute of Technology (UOIT)
- Ms. Diana PETRARCA, Associate Professor, Faculty of Education, University of Ontario Institute of Technology (UOIT)
Czech Republic

- Ms. Karolina REZKOVÁ, Third Secretary, Permanent Delegation of the Czech Republic to the OECD

Denmark

- Mr. Tobias HEIBERG, Head of implementation, Playful Learning Programme/Future Classroom Lab, University College Copenhagen
- Mr. Hasse Herold MØLLER, Assistant Professor, Playful Learning Programme Ambassador Institute for learning and technology, Future Classroom Lab, University College Copenhagen

Finland

- Ms. Katja HÖLTTÄ-OTTO, Associate Professor, Department of Mechanical Engineering, Aalto University
- Mr. Aleksi KALENIUS, Counsellor (Education, Science), Permanent Delegation of Finland to the OECD

France

- Mr. Andres BEDOYA, Project Manager Social Innovation, Expert design thinking, Ecole des Ponts ParisTech
- Mr. Todd LUBART, Professor of Psychology LATI Laboratory, Paris Descartes University
- Mr. Branden THORNHILL-MILLER, Psychology and Economics & Psychology, Paris Descartes University
- Mr. Florent STORA, Counsellor for Education, Permanent Mission of France to the OECD

Germany

- Ms. Susianne SCHMIDT, Chair of Business Education, Department of Law and Economics, Johannes-Gutenberg-University of Mainz

Ireland

- Ms. Carina GINTY - via video conference call - GMIT Teaching and Learning Officer/ Lecturer in Teaching & Learning, GMIT (Galway-Mayo Institute of Technology)
- Ms. Melanie NÍ DHUINN, Assistant Professor in Teacher Education Teacher Education, Trinity College
- Mr. Paul CONWAY, Director, School of Education, Faculty of Education and Health Sciences, University of Limerick

Italy

- Ms. Cristiana ROSSIGNOLO, Associate Professor and Co-ordinator Collegio di Pianificazione e Progettazione, Politecnico di Torino
• Ms. Ilaria TOBALDO, Course Catalog, Accreditation and Quality Assurance Division of Teaching and Students Affairs, Politecnico di Torino

Japan
• Mr. Makito YURITA, Senior Research Fellow, Research and Development, National Institute for School Teachers and Staff Development
• Ms. Kazumi SATO, Director Center for Global Discovery, Sophia University
• Ms. Miki SUGIMURA, Master of Education, Doctor of Philosophy Faculty of Human Sciences, Department of Education, Sophia University

Korea
• Ms. Eun Young KIM, Director General Office of Information and Knowledge Management, Korean Educational Development Institute (KEDI)

Latvia
• Ms. Laura TREIMANE, Counsellor for Education and Science, Permanent Delegation of the Republic of Latvia to the OECD and UNESCO
• Ms. Ilze BRISKA, Dean Faculty of Pedagogy, Psychology and Art, University of Latvia
• Ms. Liga ROKE-REIMATE, Faculty of Pedagogy, Psychology and Art, University of Latvia

Mexico
• Ms. Paula PÉREZ MULEIRO, Policy Analyst, Permanent Delegation of Mexico to the OECD
• Mr. Carlos Iván MORENO-ARELLANO, Vice Provost for International Affairs, University of Guadalajara
• Ms. Sandra Elizabeth COBIÁN POZOS, Responsible for Curricular Innovation, University of Guadalajara
• Mr. Tenoch CEDILLO AVALOS, Rector, Universidad Pedagogica Nacional
• Ms. Marcela SANTILLÁN NIETO, Professor, Universidad Pedagogica Nacional

Netherlands
• Ms. Anita HEIJLTJES, Learning and Innovation Centre, Avans University of Applied Sciences
• Ms. Eva JANSSEN, Researcher, Avans University of Applied Sciences
• Mr David CROMBIE, Strategic Planning & Research, HKU University of the Arts Utrecht
• Ms. Thera JONKER, Director Expertise Centre of Education, HKU University of the Arts Utrecht
• Ms. Nanna FREEMAN, Senior lecturer Business English Communication and chair exam board CE/IBMS, The Hague University of Applied Sciences
• Ms. Wypkje van der HEIDE, Lecturer Business Communication / Researcher Change Management, The Hague University of Applied Sciences

Norway
• Ms. Catharina CHRISTOPHERSEN, Professor and strategic research program leader, Arts, Creativities and Cultural Practices, Western Norway University of Applied Sciences
• Mr. Sigurd SANDVOLD, Vice Faculty Dean, Faculty of Teacher Education, Culture and Sports, Western Norway University of Applied Sciences

People’s Republic of China
• Mr. Zhiyong ZHU, Professor Faculty of Education, Beijing Normal University
• Ms. Ping ZHAO, Associate Professor, Beijing Normal University
• Mr. Junqi WU- via video conference call - Dean of School of Teacher Education, Central China Normal University
• Ms. Lijuan HU, Instruction Affairs Division, East China Normal University
• Ms. Yingchun ZHOU, Professor Instruction Affairs Division, East China Normal University
• Mr. Guanping LI, Director of Institute of Teacher Education, Northeast Normal University
• Mr. Congman RAO, Director of Institute of International and Comparative Education, Northeast Normal University
• Mr. Xiangdong WANG, Deputy Director of Department of Academic Affairs, Northeast Normal University
• Mr. Min WEI, Director of Department of Academic Affairs Department of Academic Affairs, Northeast Normal University
• Ms. Dan ZHANG - via video conference call - Department of Academic Affairs, Northeast Normal University
• Mr. Le FANG - via video conference call - Shanghai Education Evaluation Institute
• Ms. Cui BIAN - via video conference call - Research Institute of International and Comparative Education, Shanghai Normal University
• Ms. Xiangping GAO - via video conference call – Dean, Office of Academic Affairs, Shanghai Normal University
• Mr. Huixian XIA - via video conference call - Dean of Faculty of Education, Shanghai Normal University
Portugal

- Ms. Ana Teresa FERREIRA OLIVEIRA, Professora Adjunta Convidada, Ciências Psicológicas e Sociais Escola Superior de Tecnologia e Gestão, Polytechnic Institute of Viana do Castelo
- Ms. Joana SANTOS, Director Escola Superior de Tecnologia e Gestão, Polytechnic Institute of Viana do Castelo
- Mr. Nuno ALMEIDA - via video conference call - Master’s Coordinator, Marketing and Tourism Promotion, Polytechnic of Leiria
- Ms. Marta PILE, Área de Estudos, Planeamento e Qualidade (Coordenação), Instituto Superior Técnico - Universidade de Lisboa
- Ms. Alexandra PONTES, Instituto Superior Técnico, Universidade de Lisboa
- Ms. Elsa Maria BACALA ESTRELA, Professora Auxiliar na ULHT Interdisciplinary Research Centre for Education and Development, Universidade Lusófona de Humanidades e Tecnologias
- Ms. Célia GONÇALVES PIRES, Diretora, Serviço de Gestão da Qualidade Universidade Lusófona de Humanidades e Tecnologias
- Ms. Alice BASTOS, Faculty of Medicine, University of Porto
- Ms. Laura RIBEIRO, Faculty of Medicine, University of Porto
- Ms. Caroline Elizabeth DOMINGUEZ, Universidade de Trás-os-Montes e Alto Douro

Romania

- Ms. Daniela Elena DUMITRU, Director at Departamentului pentru Pregătirea Personalului Didactic - Teacher Training, Academia de Studii Economice din București, University of Bucharest and West University of Timisoara
- Mr. Mircea DUMITRU, Rector, University of Bucharest

Russian Federation

- Ms. Oksana DREMOVA, National Research University Higher School of Economics

Slovak Republic

- Mr. Dusan JURIK, First Secretary, Permanent Delegation of the Slovak Republic to the OECD

Spain

- Ms. Maria Luisa MARTÍNEZ MARTÍ, Researcher, Université Camilo José Cela
- Ms. Carlota TOVAR PÉREZ, Vice-Rector for Innovation and Research Vicerrectorado, Universitat Camilo José Cela
- Ms. Antonia MUÑIZ, Professor Visual arts Department. Faculty of education, Universidad Internacional de La Rioja
United Kingdom

- Ms. Alison JAMES, Director, Academic Quality and Development, University of Winchester
- Mr. Paul SOWDEN, Professor and Research Lead Psychology, University of Winchester

United States

- Ms. Gerri BURTON - via video conference call - Managing Principal, New Learning Ventures

Association for Teacher Education in Europe

- Mr. Davide PARMIGIANI, Vice President

European Commission

- Mr. Jean MICALLEF-GRIMAUD

European University Association

- Mr. Andrée SURSOCK, Deputy Secretary General

OECD

- Ms. Anastasia ANDREEVA
- Mr. Mathias BOUCKAERT
- Ms. Madeleine GEREKE
- Mr. Carlos GONZALEZ-SANCHO
- Mr. Gwénaël JACOTIN
- Mr. Soumyajit KAR
- Ms. Parissa NAHANI
- Ms. Judit PÁL
- Ms. Deborah ROSEVEARE
- Ms. Shane SAMUELSON
- Mr. Raffaele TRAPASSO
- Mr. Joaquin URGEL
- Mr. Quentin VIDAL
- Mr. Stéphan VINCENT-LANCRIN