



**DIRECTORATE FOR EDUCATION  
CENTRE FOR EDUCATIONAL RESEARCH AND INNOVATION (CERI) GOVERNING BOARD**

**Educational Information Systems for Innovation and Improvement**

**Workshop Summary Report**

**14-15 October 2010**

*The OECD, the US Social Science Research Council (SSRC) and the Stupski Foundation have organised an international workshop on Educational Information Systems for Innovation and Improvement that convened experts and policy makers to discuss how the next-generation educational data systems could transform education in the OECD area.*

*The workshop aimed at (1) outlining the design specifications and features of next-generation longitudinal data systems, (2) identifying the most significant policy, practice and technology barriers related to their full implementation and actual use, including privacy, portability, comparability and utility, and (3) developing specific recommendations and action steps to address these barriers.*

*This document summarises the workshop discussions.*

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## Workshop Summary Report

### EDUCATIONAL INFORMATION SYSTEMS FOR INNOVATION AND IMPROVEMENT

Workshop organised by  
**the Organisation for Economic Co-operation and Development (OECD),  
 the Social Science Research Council (SSRC),  
 and the Stupski Foundation**

**New York City, United States, 14-15 October 2010**

#### Highlights of the discussions

Next-generation educational information systems present a great potential for innovation and improvement in the education sector:

- they should typically track students and teachers longitudinally, be inter-operable, customisable, and include a bank of educational resources and assessments to support personalisation of teaching and learning;
- they should provide educational stakeholders with quick feedback; timely, automated diagnostics; suggested solutions and support material to adapt their teaching/learning to the proposed diagnostics.
- they have the potential to reshape social relations between educational stakeholders, to facilitate knowledge flows, improve educational research and evaluations of innovative practices;

The initial development of a system can face some difficulties in relation to cost, privacy, delays in development, data quality and quantity. Some factors mentioned to alleviate these obstacles were: clear objectives, flexibility regarding user needs and priorities, early communication, support to stakeholder use, intuitive interfaces and visualisation tools, prototyping of the system. Further developments of the systems needs to build on user needs, stakeholders' critical feedback, and advances in software technology.

The actual use of the information or data systems by stakeholders can be a challenge. Accountability based on the collected data is sometimes used as a push factor. Other forms of incentives are also used, from the sheer relevance of the systems to users' needs to accompanying school routines developed around them.

Data systems can improve cost-efficiency by automating and avoiding duplication of reporting tasks, from statistical reporting to transfer of school certificates or transcripts. They can also inform financial decision-making.

The development of international standards and protocols would facilitate the inter-operability and communication of next-generation data systems.

1. The OECD/SSRC/Stupski workshop on *Educational Information Systems for Innovation and Improvement* represents the first broad international meeting that assembled experts and policy makers working with the next generation educational data systems across OECD countries. The workshop aimed at (1) outlining the design specifications and features of next-generation longitudinal data systems, (2) identifying the most significant policy, practice and technology barriers related to their full implementation and actual use, including privacy, portability, comparability and utility, and (3) developing specific recommendations and action steps to address these barriers.

## Day 1 – Plenary sessions

### *Session 1: Opening*

2. Stéphan Vincent-Lancrin, OECD Centre for Educational Research and Innovation (CERI), opened the meeting by highlighting the opportunities relating to the next generation data systems. The systems can be built around the integration of statistical and administrative data systems with learning tools, to serve primarily as learning management systems or “expert systems”. They open opportunities for a higher personalisation of the learning experience, for more efficient knowledge flows, and for reshaping the social relations of the actors of education around them. As such, these systems can be a vector and facilitator of innovations in learning. Moreover, these systems have the potential to foster the emergence of new research on education and to allow for better evaluation of educational innovations.

3. The workshop aims to start an international conversation and create a community of practice around next generation data systems, to define a common vocabulary, highlight best practices, and learn from the diversity of practices in OECD countries.

### *Session 2 : Conversation with US Department of Education*

4. Karen Cator, US Department of Education, presented the importance of data systems for different strands of the US education policy. In the United States, states are the responsible unit for education. Yet, there is a strategic role for the federal level in guiding the efforts of states. The current federal administration has defined the strategic priorities for education around four assurances:

- State led development and adoption of standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy;
- Building state longitudinal data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction;
- Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most; and
- Turning around US lowest-achieving schools.

5. Following the economic crisis, the Recovery Act allocated new resources to the education sector and thus provided new opportunities for reform. The “Race to the Top” is a competitive grant programme that encourages states and local districts to engage in reforming education to meet the four federal assurances. This includes, in many cases, the creation or substantial improvement of data systems. Set aside from the main “Race to the Top” fund is a specific grant (assessment 2.0) that assists states in their efforts towards creating a new generation of assessments that cover the full range of standards and also measure growth. The Department of Education also encourages states to build longitudinal data systems that enable interconnections between different levels of education (e.g. connect teacher performance data to college of education they come from). Earlier, the “No Child Left Behind” Act of 2001 put a focus on educational data, and assessments introduced in this context helped direct public attention towards the achievement gaps of students in the United States. Today, the current focus on data aims to address some limits of previous data systems:

- *From how students are doing also to how teachers are doing.* Since previous data systems were built mostly around single test scores from *sub par* tests, student performance measured in this way could not be used to assess teacher performance in a fair way.
- *From what are the issues also to what to do next.* Previous data systems left the “now do what?” question largely unanswered. They were generally limited in the way they turned data into useful information for students, parents, and teachers.

6. The design of next generation data systems must pick up on those challenges so that data are used at their full potential for creating a “participatory digital learning environment”, with rapid feedback loops to students and teachers, and for research. Some important considerations to be addressed include privacy concerns and data security; the use of (richer) data for accountability; the lack of understanding of what these data are going to be used for; the capacity, for teachers in particular, to use the data and the information which these data make available; and the legal obstacles to linking teachers’ and students’ records, as some state laws forbid this link.

### ***Session 3: US Innovation Lab Network***

7. Nelson Gonzalez, Stupski Foundation, presented Stupski’s vision and initiatives regarding education. Recognising that the current education system’s DNA of sorting and selecting is at odds with the goal of filling the achievement gaps in the United States, Stupski promotes radical transformation of the educational system. The systems perspective is at the core of the questioning: How do we ensure that successful exceptions at the margin of the system are scaled up to the system level? How do we move from a flat-line innovation system to a system that has traction? To address these challenges, Stupski formed the Partnership for Next Generation Learning with the Council of Chief State School Officers (CCSSO), which represents the leadership of public education in the 50 states and the territories. The goal of the Partnership is to transform the system of public education through new systems design. The Partnership is supporting a six state Innovation Lab Network as the nucleus of change. Stupski has created a System Innovation Platform that connects leaders and entrepreneurs from six states – Maine, New York, West Virginia, Kentucky, Ohio and Wisconsin and 12 partner associate states. The five-year objective is to create a portfolio of “proof points” – aligned school districts – accompanied by a practical knowledge base on how to get to these proof points, and by diagnostic tools (expert systems) that help leaders activate this knowledge.

8. The Innovation Lab focuses on three core issues of next generation educational systems: governance, assessments, and how to train, pay, hire and find the future education professionals (master teachers, coaches, assessment diagnosticians, mentors, etc.). In education, innovation cycles can be long and often inconclusive; the Innovation Lab promotes instead *rapid prototyping* as its method for searching effective solutions. This involves rapid-cycle testing and learning, where an iteration of the diagnose-plan-build-share phases typically lasts about three months. As a prototyping ground, the Innovation Lab’s desire is to explore the uses of next generation data systems for personalising the learning experience of students and for opening the walls of schools to the learning that occurs outside the classroom. At the systems level, it recognises the need for cutting across jurisdictions and agencies to collect meaningful information on students wherever they are.

9. Linda Pittenger, Council of Chief State School Officers (CCSSO), introduced CCSSO’s vision for next-generation learning in the United States. CCSSO has adopted six critical attributes of next generation learning, which function as design principles for the Innovation Lab Network. The CCSSO is a place where states can advocate change and create strategic partnerships based on trust. Its objective is to build the capacity for change among state education agencies. In its recent activity, the CCSSO has promoted the adoption of common standards by the 51 state entities that are its members, inspired by the common agreement on the goal of education as preparing every child for lifelong learning, meaningful work, and citizenship. This agreement implies a new understanding of achievement gaps in terms of individuals rather than groups; it allows a richer dialogue on new systems for assessment, on accountability instruments, on the role of the education workforce; it is effective in shifting focus on learning rather than schooling, and on every child rather than groups.

10. New information systems allowing rapid feed-back loops are crucial for personalised learning, richer assessments, individual-level diagnostics and for enabling a better allocation of time and teaching capacity to the children that most need it in order to progress.

***Session 4: Information systems: state of the art in the OECD area and promises***

11. Stéphan Vincent-Lancrin, OECD Centre for Educational Research and Innovation (CERI), presented a survey of the current educational longitudinal information systems in use in OECD member countries. The preliminary results from this survey reveal that most systems are recent (only six of them existed before 2000, ten were launched after 2005), and most of them are jurisdictional (publicly administered). Interestingly, some federal countries (Germany, Switzerland), but also Finland, do not have an information system as the result of a deliberate decision. The comparison of systems from different generations reveals a big diversity in their goals, their ability to track students and teachers rather than only schools, the nature of the data and the frequency of data collection. Some common patterns regarding access to data and/or access restrictions to data appear to emerge across systems.

12. This preliminary analysis indicates four main margins for improving existing systems: most systems could improve the speed of feedback to teachers and schools; comparison tools, especially at the student level, could be further developed; few systems integrate in a deep way data systems and learning management systems, and impede the use of the platforms for support and networking; non-traditional learning outcomes (generic and higher order skills) could be more often included. Further checks on the quality of responses will be needed to move from these first impressions to actual recommendations and benchmarking.

13. Larry Berger, Wireless Generation, presented his understanding of the driving forces behind the current development of data systems and his vision for next-generation data systems. In the United States, concerns about inequality in learning outcomes and in the distribution of “good” teachers have strengthened the demand for accurate measurement. National or state-wide educational data systems have developed out of the need for measurable evidence to support decisions about where and how to improve education systems. Data is being collected to provide an objective way to judge performance, and once you start collecting data, the idea of putting it into a “data system” is a natural next step. However, providing systematic access to data does not, by itself, lead to improved performance (“you cannot make a cow fatter by weighing it”), and that the uses of these systems can have unintended consequences.

14. The most advanced data systems “mash up” data and information into online educational support tools (the tools rely on data and information from different, independently developed sources). Their ingredients are student assessment data, universal item banks (which act also as a measurement tool for adding data to the system), universal lessons bank (instructional material), algorithms to make instructional/learning recommendations based on the data, and a “map of learning progressions” that define progress and organise the navigation of the material. This navigation map provided by the system is the key for unbundling the resources for teaching and learning and thus personalise the experience of learners. Students and teachers can easily locate and use the resources that are most useful and relevant for each of them. Maps raise some policy issues for their very central role in providing the architecture of the system: should we allow them to be proprietary? Should after-school programs have access to maps recording the progress of students, and be able to add information to them? In regard to data quality, these systems benefit from allowing teachers, students and parents to have access to the data; the best feedback on the accuracy and completeness of the data often comes from the users who have the direct knowledge about those who are being measured.

*Session 5: Design specification for next-generation longitudinal data systems*

15. Session 5 started with short, contrasted presentations of different systems at place in a few OECD countries.

16. New South Wales, Australia, has recently improved its web-based system called SMART (School Measurement, Assessment, Reporting Toolkit) that allows for monitoring of all schools in the system (which includes state schools, catholic schools, and independent schools). It is currently built around national tests (which all students complete about every two years) and exit exams. In the future it will include results of teacher-led assessments. A new feature of SMART is universal access through the web<sup>1</sup> to its information with emphasis on turning data into information. The system also allows follow-up of mobile students from one school to another. Teachers can use a lesson bank and teaching strategies linked to the data to be found from the website. Moreover, teachers can customize the reporting by creating, for instance, specific target groups of pupils whose progress they would like to monitor. The objective is for teachers to feel ownership over the information they are looking at, but at the same time, the system would provide a tool to map (personalised) teaching into national standards and comparisons. In the future, the aim is for also students and parents to have access to SMART data, once pending privacy issues are solved.

17. Korea's National Education Information System (NEIS) is a web-based "one-stop shop" for offices of education, families and teachers, connecting educational and rich administrative information. Its objectives are the sharing of information to achieve improved cost-efficiency and to reduce teachers' workload. The information spans from test scores to pay-roll data for teachers to school absenteeism and the lunch menu of the canteen. Differential access rights are used to protect the privacy of some information. As an e-government tool, it allows families to create school certificates and sends school permanent records of the third-year students of high school to their applicable university online. The automation of many administrative functions of schools has led to some significant cost savings overall, with an estimated benefit of over 200 millions USD per year.

18. England created the current web-based tool for analysing and reporting school performance "RAISEonline"<sup>2</sup> in 2004. Within the context of high-stakes national assessments, its objective has been to encourage school principals to respond proactively to achievement gaps in the performance of their school relative to similar schools. The self-evaluation objective has guided its conception: this is apparent in the possibility for schools to personalize reports (e.g. by creating reports on particular groups of students), to add information to the system (e.g. item-level information on tests), but also in the restriction of access to principals and administrators. The system provides value-added measures of pupil progress that control for contextual factors (ethnic group, poverty status, etc.) and statistical confidence intervals are included in the reports. As to lessons learnt, first, data systems are developed in a context that might change quickly: they need the ability to respond rapidly to policy changes; software also ages quickly. Second, this data system was built around a specific need; having this need in mind, one should be vigilant over data protection issues, balance the speed of delivery of reports with the need for quality data, and address the important challenge of data literacy by its intended users.

19. Colorado, the United States, has developed a "SchoolView" website<sup>3</sup> with public access. The website combines four features: a social network for teachers, a learner centre, interactive school performance charts, and access to performance data and reports. School performance charts are graphical

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<sup>1</sup> <http://www.schools.nsw.edu.au/learning/7-12assessments/smart/index.php>

<sup>2</sup> <https://www.raiseonline.org/>

<sup>3</sup> [www.schoolview.org](http://www.schoolview.org)

representations of both achievement and growth in achievement. A prime feature is the use of the “Colorado growth model” which defines growth as growth in percentile: growth is therefore not an absolute concept, but the model tells whether students and schools are improving more or less than the expected improvement for similar students and schools. Student-level information is available only with restricted access.

### ***Session 6: Implications for educational research and professional practice***

20. Two questions were asked in this session: how to give researchers access to the data in the educational systems; and how to ensure that researchers address the questions which are more important from a policy perspective.

21. Paul Goren, Consortium on Chicago School Research at the University of Chicago Urban Education Institute (CCSR), described the mission of his research organisation as informing and assessing policy and practice in Chicago public schools. Towards this goal the CCSR has helped build and is now responsible for maintaining a rich archive of quantitative and qualitative data on every student of Chicago public schools. Independence has been preserved through the “no surprise” rule: policymakers and practitioners are briefed about the results of research prior to publication, so that they are given the opportunity to respond and start thinking about the solutions before the release. In the later years, the CCSR has moved towards a “toolkit” creation business for individual schools, based on comprehensive surveys of schools. The main challenges encountered have included the difficulty of “speaking truth to power”, the need for professional development to turn research results into practice, and the challenges of addressing the most pressing and relevant issues in urban education in both a timely and rigorous manner.

22. Jim Kemple, New York City Research Alliance, stressed the tensions that exist between the use of data for managing the system and their use for research; they can result in unsatisfying dialogue between policy and practice, on the one hand, and research, on the other hand. The frictions stem from different views on timing (real time for decision making, less dependent on time for knowledge building), different emphasis on rigour versus relevance, a preference for clear distinctions versus nuance, and different views on the audience to which they respond (the general public versus the academic peers). The question of enhancing the dialogue is therefore the question of how to bring these two ends together. Four conditions for having research that is more relevant to policy and practice were suggested. First, a commitment to mutually reinforcing partnerships between researchers, policymakers, practitioners, families, and the general public is possible if knowledge building is not seen as only in the interest of researchers. Second, researchers need to balance research ambitions with the operational and political realities within which schools operate, being both sensitive to the benefits and burdens of participating in rigorous research projects. Third, policymakers should commit to implement innovations that they feel are in the interest of children in ways that allow learning and knowledge building (e.g. with “phase-in” designs that allow the construction of counterfactuals), while seeking high standards of evidence with correct methodologies for informing their decisions. Fourth, the objective of building a legacy must be in everyone’s mind: lessons about successes and failures take time to accrue; high quality evidence about incremental change can be extremely valuable and should be seen as building blocks in the accumulation of knowledge.

23. Barbara Schneider, Michigan State University, described her experience with state-level educational data systems in the United States. The No Child Left Behind (NCLB) Act encouraged states to collect many data at a central level and thus represented new opportunities for researchers, keeping in mind, however, that data are only as good as their users. In Michigan, for example, the superintendent was ready to share the educational data with researchers at Michigan State University if they could answer his question on how the curriculum changes implemented at the same time as NCLB would have impacted the need for teachers. Out of this initial step, the state and the researchers at Michigan State University and the

University of Michigan developed a partnership based on trust, which eventually became a formal consortium. Trust, transparency and rigour are essential conditions for a successful partnership. Moreover, researchers need to listen to practitioners – the best questions always come from the field – and need to speak to practitioners, making special efforts for dissemination and helping people draw on evidence for their practice. The partnership in Michigan was (unintendedly) accompanied by the emergence of a new profile of university students, including a new generation of scholars who are more interested in practice.

***Session 7: Identifying barriers and promising approaches to addressing these barriers (privacy, data utilisation, portability, etc.)***

24. Gábor Halász, Hungary, presented the Hungarian longitudinal assessment system and underlined the challenge of protecting the data of individual students from possible abuses. The rationale for the Hungarian data system is to provide support for school improvement, although different users access it with different goals. Hungary started collecting information from the National Assessment of Basic Competencies a decade ago, but the addition of individual identifiers that now allow for tracking students across grades is only three years old. For this, the opposition from the parliamentary Ombudsman on privacy implied a solution by which individual identifiers are generated at the local level and thus data can only be de-anonymised by schools (and schools administer access rights for families). Because of this, privacy is no longer felt as an issue.

25. Challenges ahead now include turning data into richer information for their use in practice, building capacity among parents, teachers and school leaders to use this information. In addition, the high cost of the system is a regular source of debate, as is the quality of the data which might come at the cost of its timely use (the current concern with ensuring maximum quality in the data means that feedback is given to schools with 8-10 months delay).

26. Jim Liebman, Columbia University School of Law, presented New York City's Achievement Reporting and Innovation System (ARIS)<sup>4</sup> aimed at lessening the bureaucracy and empowering the schools. The development of the data system was deeply informed by this strategic goal, and intended to provide local actors with all information they would need. At the same time, this empowerment was associated with higher accountability – for example school-drop outs would stay on the account of a school. The balance between accountability and empowerment was carefully adjusted in a system of checks and balances, with careful attention given to feedback from parents, students, teachers and principals. The difficulties associated with the development of the system were seen mainly on the managerial side. Some lessons learnt included: select a vendor with a shared vision on where to go; manage the project without expecting the vendor to do it; verify the product; prototype as much as possible to capture the user perspective from the beginning, and continue listening to critiques to improve the product after the development phase.

27. To ensure that teachers would be willing to use ARIS, New York City school authorities have encouraged the creation of inquiry teams in every school. An inquiry team is a group of teachers and professionals who use school accountability data to identify instructional methods that have not succeeded with particular students who are lagging behind in achievement and to create a research protocol for developing solutions to help these students. By comparing target students to non-targeted students, inquiry teams identify patterns of success or failure, formulate hypotheses and then convene to select the most promising hypotheses and solutions. After closely monitoring the success of the solutions and making adjustments as needed, schools eventually scale up the more effective solutions. Inquiry teams add information to the system using tailored data collection protocols.

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<sup>4</sup> <https://www.arisnyc.org/>

28. As to teacher accountability, the presenters expressed somewhat differing views. Jim Liebman did not exclude in the future the possibility of bringing accountability down to the level of the individual teachers in New York City, even though this was not at first seen as feasible given a lack of analytic tools needed to evaluate teachers. In Gábor Halász' view, the use of performance data for assessing teachers is delicate, because it may reinforce a production model in education in which teachers do not cooperate with each other. This may act as an obstacle to the adoption of innovative solutions in education.

## **Day 2 – Group discussions**

### ***Sessions 8 – 9: Uses, features and governance of next-generation data systems***

29. Day two was devoted to interactive discussions in four small groups regarding the essential functionalities and governance principles for next-generation data systems.

30. There was a general consensus that next-generation data system should be primarily built to support effective teaching and learning. Although it was not always explicit, the discussions assumed that effective teaching is about the personalisation of the students' experience and involves a deeper understanding of what constitutes success, and, hence, of how it should be measured. It may be more appropriate to call next generation systems "learning systems" rather than "data systems" – implying also teacher learning. The potential for timely diagnostics could, for instance, not be limited only to students' learning needs, but similarly be deployed to diagnose teachers' learning and training needs. The implication for designing these systems is that teacher identifiers should be present, in addition to student identifiers.

31. The use of the information provided by the system for management accountability and public accountability was a topic of debate. It was felt that this was not the primary reason for developing the system and that the decision had to be made locally, at the appropriate political level.

32. The potential for improving the standards of research in education was generally acknowledged and given consideration, in particular, for the governance principles.

33. Around these uses a number of desirable design features and governance principles were identified. A first cluster of design principles assumed that next generation data-systems should be *adaptive and interactive*. They should have, for instance, different interfaces for different users, and give users the possibility to explore and adjust the content so that they feel ownership over it. Data on student and teacher practice and performance should be linked to a recommendation engine that drives users to relevant content in an (open) item bank.

34. The system as a whole should be *open, extensible, and interoperable*. It should allow for unimagined collections of data and for user-generated content; it should, indeed, provide architecture on which non-profit and, eventually, for-profit developers could plug on content. The system should thus be modular, and its content accessible to a wide array of stakeholders. Interoperability implies that unique, standardised student (and eventually teacher) identifiers should be included; that some standard metrics should be developed to allow cross-jurisdictional comparisons and development of content; and that the system should leave open the option of adding non-educational outcomes (health, police, juvenile justice...) and labour market outcomes to the data.

35. More generally, the system should adopt a *comprehensive* view of what constitutes success, and therefore include multiple outcomes to gauge success: the social and affective domains, for instance, were stressed.

36. Around these design features the role of a central overseeing body was discussed. Its utility emerged in the domains of setting standards and acting as a gatekeeper for possible uses of the system by the research community and the private sector. Standards were to be developed both for identity management and for some metrics of students' success as learners, which constitute the common core on which all jurisdictions agree. The existence of standards would ensure interoperability of the system and create a critical "market size" to encourage the development of applications. One of the primary roles of an overseeing body would also be to actually grow and feed a knowledge ecosystem: monitoring the introduction of non-native content to avoid unintended uses, exerting some authority and quality control on the contents, and acting as a gate-keeper to a responsible research community.

37. In the context of governance discussions, the subsidiary role of national or international agencies also emerged. The idea that some data could be kept forever in a central archive, once de-identified, to encourage research, and that different governance structures might be appropriate for the "heavy infrastructure" and the add-on content was also evoked.

### *Session 10: Next steps*

38. The final session brought the meeting to a close by emphasising the need to continue to engage the group as a community of practice as work undertaken by the different co-organisers progresses.

### **Additional Material**

39. The workshop programme and the list of participants are included in the appendix of this document. Presentation supports and summaries of the group discussions can be found on the OECD [website](http://www.oecd.org)<sup>5</sup>.

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<sup>5</sup> [http://www.oecd.org/document/7/0,3343,en\\_2649\\_33723\\_46181831\\_1\\_1\\_1\\_1,00.html](http://www.oecd.org/document/7/0,3343,en_2649_33723_46181831_1_1_1_1,00.html)

**ANNEX:  
AGENDA AND LIST OF PARTICIPANTS**

## **Educational Information Systems for Innovation and Improvement**

OECD / SSRC / Stupski Workshop

14-15 October 2010

New York City, United States

New York University, Kimmel Center

60 Washington Square South, New York, NY 10012

Rooms 905/907 (9<sup>th</sup> Floor)

### **Context**

The OECD Centre for Educational Research and Innovation (CERI) is developing an Innovation Strategy for Education and Training, which was launched as part of the broader OECD Innovation Strategy. The CERI project is undertaking an international mapping and analysis of longitudinal data systems for educational improvement and innovation. These systems could become new knowledge management tools that contribute to the creation of a culture of continuous improvement and allow for better evaluation of innovations and understanding of the impact of pedagogical practice.

Such educational data systems are in use or in preparation across the United States and other OECD countries such as Korea, the United Kingdom, the Netherlands, Belgium, Hungary, New Zealand, Australia, Spain, and Japan.

With this much energy around longitudinal data systems, the OECD, the Social Science Research Council (SSRC) and the Stupski Foundation have joined forces to start an international conversation about their use and future development.

### **Goals**

The workshop will foster dialogue about the common challenges and opportunities of next-generation data systems for improving learning and evaluating innovations. It will engage policy makers, educational researchers, system developers and practitioners in the United States and other OECD countries.

The workshop will pursue three specific goals:

- Outline the design specifications and features of next generation longitudinal data
- Identify the most significant policy, practice and technology barriers related to their full implementation and actual use, including privacy, portability, comparability and utility.
- Develop specific recommendations and action steps to address these barriers.

Each of these will be discussed in the context of two empirical cases:

1. The interim report on the mapping of next-generation data systems across OECD countries, which will provide an overview of current activities, different approaches taken, types of data collected and future potential use
2. The “U.S. Next-Generation Learning Innovation Lab Network”, which will create a R&D space of six US states in which to develop and test a cross-jurisdictional next-generation data system based on the most promising aspects of the international mapping.

By doing so, we will learn how new longitudinal data systems can become powerful engines for innovation around formative assessment, system diagnostics, and educational research.

## Annotated Agenda

### Day 1

#### **9.00-9.20: Session 1: Opening**

The first session will provide an introduction and call to action: how a focus on data and data analytics might contribute to the transformation of education industries and professions around the world. This will include compelling reasons to support and be interested in these new longitudinal information systems geared towards providing education professionals with useful information about students.

-Stéphan Vincent-Lancrin (OECD)

#### **9.20-10.00: Session 2: Conversation with US Department of Education**

One of the policy priorities of the US Department of Education is to foster innovation in education. Improving the use of data is one of the 4 absolute priorities of its recently launched USD 650 million *Investing in Innovation* fund. Developing data Systems to Support Instruction was one of the criteria of the competitive USD 4.35 billion *Race to the top* program designed to spur reforms in state and local district education One immediate benefit to improving the use and utility of data will be reflected in the research conducted on behalf of, or sponsored by, the Department.

-Karen Cator (Office for Education Technology, US Department of Education)

#### **10.00-10.30: Session 3: U.S. Innovation Lab Network**

We will learn how the CCSSO/Stupski have created an R&D space of six US states where school, district and state systems will be redesigned to scale next-generation learning. We will discuss how this could serve as a test-bed for the development of new longitudinal data systems based on international best/next practice.

-Nelson Gonzalez (Stupski Foundation) and Linda Pittenger (Council of Chief State School Officers)

#### **10.30-11.10: Session 4: Information systems: state of the art in the OECD area and promises**

This session will present and discuss some of the interim results of the OECD survey on the international state of the art on educational information systems or platforms. It will outline a shared set of design specifications and features found in existing systems, differences of approaches and generations among different systems as well as promising design specifications not yet present in any system.

-Stéphan Vincent-Lancrin (OECD) and Larry Berger (Wireless Generation)

*11.10-11.30: Coffee break*

#### **11.30 – 13.00: Session 5: Design specifications for next-generation longitudinal data systems**

This session will start with short, contrasted presentations of different specific systems in a few OECD countries. In the following discussion, participants will discuss differences in approaches and start to generate and discuss a new vision for next-generation systems.

-New South Wales, Australia (SMART): Kate O'Donnell (NSW Dep. of Ed. and Training)

- Korea (NEIS): Ji Yong Cho (KERIS)

-England (RaiseOnline): Martin Kaliszewski (Department for Education UK & CfBT)

-Colorado, United States: Daniel Domagala (Colorado Department of Education)

*13.00-14.00: Lunch*

**14.00-15.30: Session 6: Implications for educational research and professional practice**

This session will discuss how and to what extent the new data infrastructure can allow researchers to evaluate teaching practices and innovative educational programmes: what data are necessary for a domestic and international research use? What are the conditions for these tools to change the relationships between educational research and teaching professional practice?

-Conversation with Paul Goren (CCSR, US), Jim Kemple (New York City Research Alliance, US), Barbara Schneider (Michigan State University, US)

*15.30-16.00 Break*

**16.00 -17.30: Session 7: Identifying barriers and promising approaches to addressing these barriers (privacy, data utilisation, portability, etc.)**

This session will identify the barriers that have been faced in the establishment of longitudinal data systems in education: privacy, data use, notably for accountability from the “big brother”. We will review some of the big questions (who can and should have access to the data?, how long should the data be kept?, how do we ensure the quality of the data?, how to ensure these systems are used by teachers?, etc.) and see how these issues have been addressed in different settings.

-Gábor Halász (CERI Governing Board member, Hungary)  
-Jim Liebman (Columbia University School of Law, United States)

*17.30: Close*

*18.00: Restaurant dinner at Elizabeth (265 Elizabeth Street, New York, NY 10012, 212-334-2426).*

**Day 2**

The second day will privilege open discussion and will be punctuated by short invited interventions. The sessions will work toward establishing clear actions and, where possible, recommendations about specific design principles for system builders to adopt.

**09.00-10.00: Session 8: Brainstorming on possible uses of next-generation data systems (breakout)**

In this session, participants will work in small groups to identify 5-10 possible uses that they would like to see in all next-generation data systems should have (and avoid). They will then define what features the systems should have to allow these desirable and undesirable (or contentious) uses.

**10.00-11.00: Session 9: Outline recommendations for development of next-generation data systems: policy recommendations for an actual impact on education research, teaching practice and system leadership**

In this session, participants will reflect on the conditions for the potential uses (and misuses) of these platforms to happen. What are the conditions for their success? What are some policy measures that should be taken to allow them to actually improve teaching and learning in the classroom as well as the educational knowledge base: what kind of uses should be encouraged and avoided? What are the uncertainties?

*11.00-11.30: Coffee break*

**11.30-13.00: Session 10: Define collective action steps: final plenary discussion and next steps**

In this final session, participants will reflect on the discussion of the seminar and reflect on the next steps. What should be the next steps in the United States and in the OECD area?

*13.00: Close*

**Participants list for the OECD-SSRC-Stupski Workshop  
At the Kimmel Centre  
New York, United States**

**14/10/2010 - 15/10/2010**

- Australia** Ms. Kate O'DONNELL  
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- Mr. David WASSON  
Australian Curriculum, Assessment and Reporting Authority  
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- France** Mr. Michel QUERE  
Ministry of National Education  
Director for Evaluation, Foresight and Performance
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Professor / Head of Department
- Japan** Mr. Masahiro NAKADE  
Ministry of Education, Culture, Sports, Science and Technology (MEXT)  
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