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*This paper is the introductory chapter from the upcoming publication “Modern Governance in Education: The Challenge of Complexity” of the Governing Complex Education Systems (GCES) project. Setting the stage for the publication, it starts by exploring the concept of complexity and its implications for modern education governance. The chapter introduces the guiding themes accountability, capacity building and strategic thinking and sets out a set of principles for governance developed in the project’s work with countries. It concludes with an overview of the individual chapters of each of the contributing authors, as well as a reminder of trust as the still under-studied glue of modern governance.*

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**CHAPTER 1**  
**MODERN GOVERNANCE CHALLENGES IN EDUCATION**

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*Governance of complex multilevel education systems has become a policy priority and countries are increasingly looking for examples and models that they can adapt to their own needs. This chapter sets the stage for the publication by exploring the concept of complexity and its implications for modern education governance. It then provides the reader with an overview of the key themes of governing complex education systems – Accountability, Capacity building and Strategic thinking. It sets out a set of principles for strategic thinking and modern governance, developed through work with countries. The chapter concludes with an overview of the full volume and the individual chapters of each of the contributing authors, as well as a reminder of one currently under-studied issue that is the glue of modern governance: trust.*

## Introduction

1. Complexity in education systems is on the rise due to a number of intersecting trends. Parents in OECD countries have become more diverse, individualistic and highly educated. As evidence about school and student achievement has become more readily available, parents and other stakeholders have also become more demanding, pushing schools to cater for students' individual needs.

2. One of the most important responses to this increasing complexity has been decentralisation: allowing local authorities, school boards and schools a greater degree of freedom to respond to diverse and local demands. In fact, decentralisation may be too limited a term for what has happened. In many countries tasks have not simply devolved to regional, local or school levels. Lump sum funding, strengthening of stakeholders, horizontal accountability and holding local authorities and schools accountable through performance indicators have changed the nature of the relationship between the central, regional and local levels, moving away from a hierarchical relationship to a division of labour and more mutual independence and self-regulation. Education systems are now characterised by multi-level governance where the links between multiple actors operating at different levels are more fluid and open to negotiation.

3. These developments have been taking place in all OECD countries to varying degrees in the past three decades. Of course different countries started at different points of departure. Federal states, for example, have the added complexity of authority spread over national and state levels (e.g. Australia, Austria, Canada, Germany or the United States). Certain countries have a long tradition of strong decentralisation (e.g. Finland, the United Kingdom). Other countries have a lengthy practice of freedom of school choice and of the establishment of publicly funded private schools (like Belgium or the Netherlands). These different points of departure are important for structural as well as traditional reasons, and have a great impact on the types of policy options available in that context.

4. Whatever the precise structure of their education systems, many OECD countries have been searching for governance models that allow them to effectively steer complex education systems. This search has led to a multiplication of governance mechanisms that are often applied simultaneously. For example, central ministries act as regulator for the education system, setting the rules within which increasingly autonomous schools must operate. But ministries also act as top-down enforcers of quality standards if schools consistently fail to meet expectations. Crucially, ministries are no longer the only actor involved in governing education systems. Apart from the increased role for schools and local departments themselves, there is a host of other stakeholders (including buffer organisations, teacher unions, other ministries and national boards) that play a role. When it comes to national strategy setting, negotiation and dialogue have become important governance mechanisms.

5. In fact, current policy imperatives, like the increasing importance that is attached to education for building a strong knowledge economy and the international comparisons as, for example, provided by PISA and the Trends in International Mathematics and Science Study (TIMSS), increase the importance of national (and international) co-ordination and convergence. While the multiplication of governance models is a response to underlying complexity; it also further contributes to the complexity of the system.

6. While decentralisation and the introduction of new governance mechanisms is an understandable and common response to complexity, one element has not changed: ministries of education remain responsible for ensuring high quality, efficient, equitable and innovative education at the national level. They must fulfil this responsibility at the same time as the system engages with more diverse of local actors, strong parental voice, higher levels of school autonomy, and newly important players like the media.

7. This chapter sets the stage for the publication by exploring the concept of complexity and its implications for modern education governance. It then provides the reader with an overview of the key themes of governing complex education systems – Accountability, Capacity building and Strategic thinking. The chapter concludes with an overview of the full volume and the individual chapters of each of the contributing authors.

### *Two key questions*

8. Governing multi-level education systems effectively requires governance models where the need to be responsive to local diversity is balanced by the need to ensure national objectives. This is a delicate balance and very difficult to achieve given the complexity of the education system in many OECD countries. As a result, governance issues have moved up on the agenda, and countries are increasingly looking for examples and models that they can adapt to their own needs. This resulted in the creation of an OECD/CERI project, Governing Complex Education Systems, or GCES<sup>1</sup>. The present volume emerges from the work of this project.

#### **Box 1. The Governing Complex Education Systems (GCES) project**

Launched in 2011, the OECD/CERI Governing Complex Education Systems project had the following three goals:

1. Establish the state of research and evidence in governance of education systems and use of knowledge and contribute to the analytical and conceptual knowledge base in the field.
2. Explore current practices in OECD member countries through a series of thematic workshops, working papers and case studies.
3. Build an international network of policy makers and researchers with expertise in this area.

To this end, the project organised a series of thematic conferences to build an international network and bring together relevant stakeholders from policy, research, and practice. It also produced a range of working papers exploring the conceptual issues around modern governance challenges. A series of case studies from Belgium (Flanders), Germany, The Netherlands, Norway, Poland and Sweden provided an empirical investigation of key issues of multi-level education governance.

See Annex A for a full list of project outputs including conferences, working papers and case studies.

9. Addressing the search for adaptable examples of effective governance systems, the first key question of the project, and thus our discussion, was:

*“What models of governance are effective in complex education systems?”*

10. For the policy maker tasked with developing a response to a particular issue, it is often not fully clear what kinds of evidence are needed in order to address key policy issues – and in fact there may be multiple paths to a particular evidence-based solution. Policy makers must build a repertoire of actions and strategies to navigate the knowledge options available. Apart from the use of knowledge by policy makers, important questions are how and where knowledge is produced and how it is transmitted to policy makers. In this context, the role of brokerage agencies in providing timely evidence and helping weigh the various options available are becoming increasingly important. This raises the second key question for modern governance:

<sup>1</sup> [www.oecd.org/edu/ceri/gces](http://www.oecd.org/edu/ceri/gces)

*“What knowledge system is necessary to support the effective governance of complex education systems?”*

11. An important component of modern governance systems is their capacity to learn and to share knowledge. With the growth in complexity, governance has become a knowledge intensive activity. In complex and often fragmented systems, sharing knowledge between different parts of the system is essential, for example, to make innovative practice at decentralised levels available in other (decentralised) parts of the system. The key role of knowledge becomes more important as the different types of testing and assessment on national and international levels have led to an explosion in the kinds and types of evidence available to policy makers. Of course, knowledge is also generated by professional experience and includes tacit knowledge transmitted informally within systems.

12. Knowledge and learning are also vital elements in negotiations and dialogue that are essential to creating consensus in complex systems with multiple actors. Knowledge becomes a tool to steer the system: providing decentralised decision makers and practitioners with relevant, high quality knowledge is imperative to improve the quality of decision making and practices.

#### **Box 2. Why governance and knowledge, and why now?**

The OECD Secretary-General has recently proposed a reflection process to explore “New Approaches to Economic Challenges” (NAEC), which aims to revisit and assess whether analytical frameworks and economic models need to be adapted to a post-crisis world. A key issue for this reflection is the concept of a *Strategic State*:

*It is not so much the size of the State which is at stake, but rather its governance. In other words, it is not so much a reduced state that we need to foster economic growth in our countries, but a strategic state. This idea of a strategic state that targets its investments to maximize growth in the face of hard budget constraints departs both, from the Keynesian view of a state sustaining growth through demand-driven policies, and from the neoliberal view of a minimal state confined to its regalian functions (public order, basic services. (Philippe Aghion)<sup>2</sup>*

One of the key themes of this work is the impact of the crisis on trust in government. Dramatic cuts in social expenditure have raised concerns about fairness, equity of sacrifice, and worries about the social contract. As governments struggle to communicate a clear vision for recovery, the public’s trust in government must be reinforced, and efforts must be made to strengthen institutions and build capacity across different dimensions of trust (e.g. reliability, fairness and impartiality, integrity and honesty, and inclusiveness) (OECD, 2015).

At the same time, the concept of a *smarter state* includes a focus on government learning. Although traditionally thought of in terms of innovation and industrial policy, this concept extends to all sectors of government and includes an emphasis on trying new approaches, learning what works, and building the systemic capacity of the government to improve policy design, steering, and implementation. Finding new approaches to economic challenges, then, requires revisiting governance models in all areas, including education.

#### **Modern governance and the complexity challenge**

13. Navigating modern governance requirements is easier said than done. There are no magic solutions, no one-size-fits-all recipe that can be rolled out to guarantee success. The multitude of possible solutions to any given problem can be bewildering; and it is certainly frustrating to any politician looking for fast answers. It has been argued that the one constant is surprise: “*At any given moment, there is a high probability of low probability events. In other words, surprise dominates*” (Dror, 1986). Why would this be

<sup>2</sup> Philippe Aghion, Growth Policy and the State Implications for the Design of a European Growth Package, June 2012. London School of Economics, Growth Commission, Institute of Government.

so? One hint is that education systems are complex systems, and thus are not easily governed by linear logic and processes (Snyder, 2013).

### *Defining complex systems*

14. Our world is becoming more complex, with more dynamic growth and interaction in worldwide trends than ever before. Complexity theory posits that systems begin as collections of individual actors who organize themselves and create relationships. These relationships form in response to positive or negative feedback, as well as a degree of randomness. New structures and behaviours then emerge as the actors act and react to each other. A complex system has the following core components (Sabelli, 2006):

- Behaviour is not explained by the properties of the components themselves, but rather emerges from the interaction of the components.
- The system is non-linear and relies on feedback to shape its evolution.
- The system operates on multiple time-scales and levels simultaneously.

Analytically, complex systems pose several challenges as a particular system can no longer be examined in isolation. Rather, the study of complex systems requires a step back to look at how the various interconnections can form a coherent whole.

### *What makes complex problems unique?*

15. In order to address governance issues from the perspective of complexity, it is useful to distinguish between simple, complicated and complex problems (Glouberman, and Zimmerman, 2002; see also Table 1).

**Table 1. Simple, complicated, and complex problems**

Simple: Following a recipe	Complicated: Sending a rocket to the moon	Complex: Raising a child
Recipes are essential	Formulae are critical	Formulae have limited application.
Recipes are easily replicated	Sending one rocket increases assurance that the next will be ok	Raising one child gives experience, but no assurance of success with another
Expertise is helpful but not required	High levels of expertise in multiple fields needed	Expertise can contribute but is neither necessary nor sufficient for success
Produces a standardised product	Rockets are similar in critical ways	Each child is unique and must be approached individually
Best recipes give good results every time	There is a high degree of certainty in the outcome once the original issues are solved	Uncertainty of outcome remains

Source: Snyder (2013); adapted from Glouberman, S., & Zimmerman, B. (2002)

16. Educational governance often attempts to follow a complicated approach when developing solutions to complex problems (Duit, et. al, 2010, see also Mason (this volume)). As Johnson argues,

*“Currently, many methods of investigating the educational outcomes of individual schools [...] are based on linear algorithms that simplify and break down systems into isolated component parts. The premise of such linear models is that inputs into the system will result in predictable outcomes. While appropriately predictive of some static, closed systems, these models fail to adequately predict the behavior of or capture the essence and emergent properties of complex systems involving three or more interacting components”* (2008, p. 5-6, cited in Snyder (2013)).

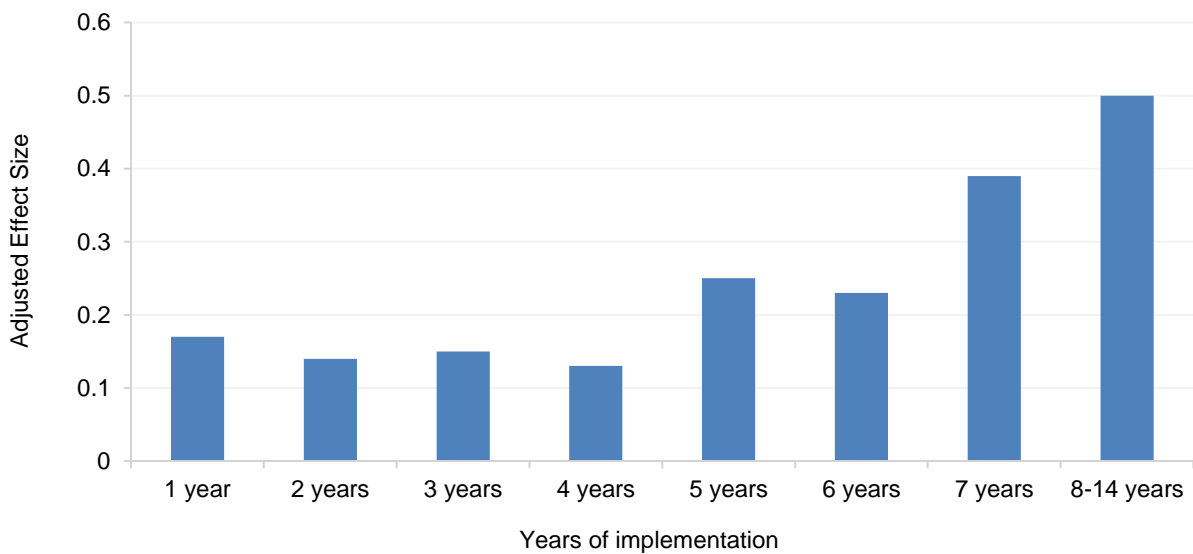
17. Dimensions of complexity play a major role in how, and in what ways, education might be effectively governed. Modern education governance must be able to juggle the dynamism and complexity at the same time as it steers a clear course towards established goals. And it must usually do this as efficiently as possible, with limited financial resources. Education systems are complex in at least the following dimensions:

- They are multi-level systems (local, regional, national in many countries) and alignment is a major challenge, particularly in those most decentralised (Hopfenbeck et al., 2013; Blanchenay, Burns and Köster, 2014).
- Reflecting our societies, they are increasingly diverse – both in terms of the demographics of the population (of students, of teachers, and communities) as well as the values and identities we ascribe to ourselves and expect our education systems to deliver;
- They contain a growing number of stakeholders who are increasingly vocal about their wants and desires, not only for themselves and their children, but for the systems as a whole;
- Education is a field with strong a priori beliefs, strongly tied both to our identities and our experiences. Not only do we expect education to deliver the kinds of citizens we desire, everyone has taken part in education in some form or another. In doing so they have often formed strong personal opinions about what appears to work, and what does not, and these opinions may not be aligned with research findings.

### **The reality of modern governance**

18. This complexity in the system is matched by new governance challenges in our modern world. Governance and political life is more and more marked by turbulence and surprises, and there is a growing cynicism about government and public institutions in general. Part of this is due to decreasing levels of trust, especially of our elected leaders (Cerna, 2014), and lasting impacts from the financial crisis of 2007-2008. But part of this is also due to new expectations of governance, where the emphasis is placed on simple, fast and effective (although possibly not lasting) solutions.

19. In this world, marked also by new technologies and instant feedback, expectations tend to rise faster than performance. This is not particularly surprising, given the time it takes to see the effect of an educational reform: one meta-analysis of broad compulsory school reforms in the United States suggests that the strongest effects are seen eight to fourteen years after a reform is begun (Borman et al, 2003, see Figure 1).

**Figure 1. Effect size of Compulsory School Reform, by years of implementation**

Notes: Effect sizes based on meta-analysis of studies pertaining to the impact of comprehensive school reform on student achievement in the United States.

Source: Borman, et al. (2003)

20. This can become a challenge in terms of responding to the needs of increasingly vocal stakeholders. Parents concerned about the education of their children do not have eight years to wait and see what is effective; they expect the best education for their children now. The timeline is also completely at odds with the needs of an elected official, who has two or three years to make his/her case for re-election and demonstrate the efficacy of any flagship reforms.

21. Time, then, is another element of complexity. Elections at multiple levels create short-termism at the same time that research has demonstrated that the effects of a reform can take a significant amount of time to bear fruit. Further adding to the complexity, the effects of a reform may in fact change over time: in the realm of school choice for example, Waslander, et al. (2010) point out that short term effects (generated by the early, generally well-informed adopters of a policy) can be quite different than longer term effects (when more parents have had a chance to act on it).

22. So what can be done? The answer to this lies in the answer to the second question posed earlier in the Introduction: *What knowledge system is necessary to support the effective governance of complex education systems?* Work on this element has made clear that the necessary knowledge system needs to build on rich and nuanced data that are also easily understandable. In fact, the necessary knowledge system combines descriptive system data (on achievement, graduation, etc.) with research findings that can determine whether something is working, and why. It also includes the wealth of practitioner knowledge available, both formalised and informal. The key is to knowing what to use, when, and why (Fazekas and Burns, 2012). And in a complex system marked primarily by surprises, this is no easy task.

23. As described above, modern governance must take into account the complexity of our systems, as well as the major themes that countries struggle with: accountability, capacity building, and strategic thinking. All of these issues must also be tied into the human element, and trust, which is the backbone of any functioning governance system. The role of knowledge and evidence in guiding strategic decisions underlies all of these elements. The following section explores each of these themes in turn.

## Accountability, capacity building and strategic thinking

### *Accountability*

24. The issue of **accountability** is central to the governance of complex education systems, especially in terms of setting priorities and steering in multilevel systems with sometimes overlapping actors. Accountability gaps, for example situations where the central level may no longer be the driving force for accountability purposes but there is not a clear or functioning replacement, are one of the challenges that many countries face. There is a very real question about which actors at which levels should be held accountable for which outcomes, and how this can function in a coherent and intelligent manner.

25. In this context the role of evaluation and, specifically, of performance measurement, managing accountability in the system is an important factor. In education, as in many other public sectors, a stronger focus on measurable outputs (student test scores, graduation rates, transitions to the labour market) has been accompanied by an increased emphasis on standardised comparable testing. This has led to an explosion of evidence available to policy makers (and indeed all stakeholders in those countries where achievement data is made publicly available to all stakeholders). This has been an important force in increasing the transparency and accountability of the system, and in helping to identify areas for improvement.

26. However, there have been some perhaps unintended drawbacks to increasing accountability. There is an inherent tension between accountability and innovation, in that tightly controlled accountability mechanisms seek to minimise risk and error, both of which are fundamental elements of the innovation process. Yet countries are under strong internal (and at times external) pressure to strengthen their accountability systems while at the same time encouraging innovation. These kinds of inherent tensions are part and parcel of modern governance challenges, as they require a) a systemic vision that can identify the tension and b) making an informed choice about the best way to balance the competing elements in a particular system or school.

27. It is clear that all countries would like to have a strong accountability system that increases achievement and excellence while at the same time allowing for creativity and innovation. It is thus helpful to move away from thinking about effective accountability as simply implying more evaluation and mechanisms to ensure compliance. Rather, OECD countries are now at the stage where they are thinking systematically about their goals and desires for accountability as a tool for improvement, which includes also the room to innovate on all levels including the school and classroom (OECD, 2013). We argue that the term “*strong accountability*” should thus entail an explicit acknowledgement of the complexity involved: an understanding of the balance between regulations and evaluation instruments on the one hand and other elements of education excellence and equality, such as space and time to study subjects that are not part of national tests, or the participation and feedback of a wide variety of educational actors on the other.

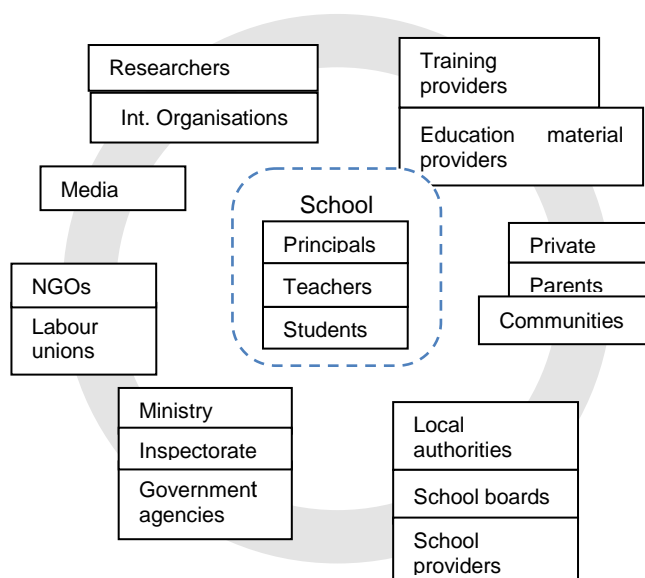
28. Strong accountability systems thus keep a clear focus on achievement and excellence, while being nuanced enough to allow for innovation, creativity and a rounded learning experience. This requires balancing evaluation and assessment with the risk-taking (including the potential failure) involved in innovation, both on the part of teachers and school leaders as well as students. The exact configuration of an education system’s accountability system will of course depend on context and how decision-makers (and communities) choose to balance these various processes. It will also depend on the level and extent of stakeholder engagement and activity in the governance process.

### Modes of accountability

29. Two types of accountability mechanisms are commonly used: vertical and horizontal. *Vertical accountability* is top-down and hierarchical. It enforces compliance with laws and regulation and/or holds schools accountable for the quality of education they provide. *Horizontal accountability* presupposes non-hierarchical relationships. It is directed at how schools and teachers conduct their practice and/or at how schools and teachers provide multiple stakeholders with insight into their educational processes, decision-making, implementation and results (see also Hooge, this volume, for a more detailed discussion).

30. Hooge et al. (2012) argue that vertical measures of accountability, that is, more traditional regulatory and school performance accountability, can be usefully augmented by horizontal measures involving multiple stakeholders. These would include actors such as parents, students, and communities (see Figure 2). Systems of multiple school accountability aim to efficiently and effectively take into account the nuanced nature and purposes of education, including an openness to innovation and creativity in multiple subject areas.

**Figure 2. Potential Stakeholders in Education**



31. But do these accountability mechanisms really work? Reports are mixed: there is great appreciation for the process and a broader range of stakeholder voices. However, ministries report a reluctance to rely too heavily on information generated by multiple accountability mechanisms due to doubts about its reliability and the risk of information overload. On this basis, central government is advised to discuss the purposes and use of multiple accountability mechanisms with the institutions and to balance the opportunities (information to learn, improve, steer, and formulate policies) with the risks (e.g. information overload) (Hooge et al, 2012).

32. In education, multiple accountability is still a fairly new concept and the amount of available research on how to make it work is modest. Three lessons, however, can be learned from existing models in The Netherlands and the United Kingdom (as described in Hooge et al, 2012):

- *Identify the key stakeholders.* This is more difficult than it sounds, and schools must make efforts to involve less powerful or inactive voices.
- *Build capacity for this new role.* Some stakeholders might not have the knowledge and language needed and may inadvertently be excluded in accountability processes. Providing them with the tools to interpret and analyse benchmarking data and other evaluation processes (e.g. value-added measures) is an important part of giving them the expertise they need to take part.
- *Schools need to be ready and open to stakeholder involvement.* School leaders play a key role in empowering staff to be involved and open to parents and members of the local community.

### Box 3. Multiple accountability: Lessons from corporate governance

Within the field of corporate governance, some countries have also moved to systems of multiple accountability. In the United States and the United Kingdom for example, so called “Say-on-Pay” regulations have enabled shareholders to express their voice by voting on the pay policy of the company’s executive officers. This vote does not focus on pay itself, but rather on the balance between compensation and performance of the corporation. Proposals that pass the majority threshold are not necessarily binding for the executive board. However, they do exert pressure on the board members to reflect on executive pay and its efficacy to deliver performance. Recent research has shown that Say-on-Pay appears to lead to large increases in market value, profitability and long-term performance in large corporations (Cuñat, Gine and Guadalupe, 2012).

Interestingly, these voluntary initiatives are similar to the Swiss proposal known as the “Minder-Initiative”, (named after the entrepreneur Thomas Minder) which was approved by referendum on 3 March 2013. The implementation of the Minder-Initiative requires the remuneration system of stock-traded enterprises to be more transparent and the shareholders’ vote on the remuneration system of the companies’ boards and executives is binding. However, the boards are free to decide on the modalities of the vote, potentially circumventing the idea behind the initiative.<sup>3</sup>

### Capacity building

33. As education systems must increasingly respond to new societal, economic and individual needs, it is arguably the local level that is most challenged by these developments. A key element of successful policy reform implementation is ensuring that local stakeholders have sufficient **capacity** to meet this challenge. In particular, they need adequate knowledge of educational policy goals and consequences, the ownership and willingness to make the change, and the tools to implement the reform as planned. Without these, the best policy reform risks being derailed at the level where it counts most: the classroom. It is at this level that education policies must be implemented, and it is here that they either succeed or fail.

34. In very simple terms, *capacity building* can be described as the process of helping all actors to acquire and use information relevant to successful policy implementation. Access to this information and understanding how to use the information are defined as “knowledge” (Fazekas and Burns, 2011; Hess and Ostrom, 2007). Capacity building strives to provide different actors with effective and efficient ways to access and use knowledge in local educational contexts in order to achieve desired outcomes.

<sup>3</sup> For further details see <http://www.ethosfund.ch/e/news-publications/news.asp?code=303> (English) and accompanying report (in French, German).

35. Target groups for capacity building can be divided into individual, institutional and societal levels, all of which are strongly interrelated (UN, Economic and Social Council, 2006). In education and the public services, the definition can be extended to include the system level. In this case, capacity building is defined as follows for each of the different levels:

- **Individual level:** Finding ways to support individuals (parents, teachers, headmasters and local policy makers) as they face the demands of new developments in the local context by building on existing knowledge (human resources and knowledge management).
- **Institutional level:** Supporting existing institutions in forming policies, effective organisational structures and good management (this includes building learning organisations) (OECD, 2015b).
- **System level:** Finding efficient ways to support system level actors (*e.g.* policy makers, teacher unions) to be able to fulfil their roles in designing/implementing/evaluating etc. educational policies.
- **Societal level:** Striving towards more interactive and responsive public administration, and also working to forge links between public sectors to improve the quality and efficiency of governmental service delivery.

36. Capacity building takes place on two dimensions: *vertically*, through interventions from other levels (for example, from central government to local administration). It is important to recognise that this is a dynamic process and that capacity building in both directions (*i.e.* from the central and regional levels to local level as well as from the local level to the regional and central levels) is important for efficient education governance. Capacity building can also take place across a particular level with different stakeholders, *i.e.* *horizontally*. Horizontal capacity building involves sharing experiences and knowledge of efficient ways of implementing policies into practice and also sharing outcomes of the implementation.

Key elements in both an individual's and an institution's capacity building are:

- access to information and the ownership to be willing to use that information
- the ability and tools required to make a change efficiently and as intended, and
- reinforcing desired changes in behaviour to build new reflexes and new patterns of working.

37. Capacity building needs will be different for policy makers, school leaders, teachers, and parents. In education, there is an on-going challenge in many systems for capacity building for evidence-informed policy making and practice, empowering school leaders for accountability and also responsibility, and redefining the roles of teachers as education professionals.

38. One often over-looked area is the capacity to handle data, both for local government and in schools. Masses of data are available through assessment and monitoring systems, indicators of effectiveness, targets, inspection, and review programs. Methods for accessing information and, consequently, analysing and interpreting it are not self-evident. This is not a new problem: as early as the 1970s, it was observed that much of the relevant data were not available for schools or at least not in a form which could be easily used (Levin, 1974).

39. However the increased prevalence of data (from student exams, school and teacher evaluations, and a host of other sources) can significantly alter accountability structures in education. Although designed to increase transparency and accountability of education systems, there is a large body of research on the various ways this process can be disrupted or not work as intended. Schildkamp et al. (2014) identifies three discrete categories: *non-use*, *misuse*, and *abuse*:

1. *Non-use*: data is not collected or capacity is lacking to allow for its use. This also includes actors choosing not to use data that is contrary to their argument or beliefs.
2. *Misuse*: data is poorly collected (quality concerns), incorrectly interpreted (analysis or capacity issues) or does not provide adequate answers to be useful for decision-making.
3. *Abuse*: sample or data are manipulated to yield more favourable results, or results in unintended consequences (for example, narrowing the curriculum to improve student scores on tested subjects).

40. These are serious issues. Appropriate use of data for decision-making requires that local administrators and educators themselves become experts in interpreting data and transforming it into knowledge. This also requires a governance structure that allows for proper circulation and collection of data and provides the correct incentives for its use. Yet all too often this is not the case: Blanchenay et al. (2014) provide an example of local governance decisions being taken on the basis of traditional mechanisms and funding streams rather than the set of (readily available) data.

41. While many of these arguments focus on the issue from an efficiency perspective (i.e., better use of data enables better and more efficient decision-making), there is also an equity element at play. In many OECD countries wealthier districts or municipalities are more likely than smaller or poorer districts to fully use available data, often due to capacity issues in the ability to analyse and interpret such data. Similarly, upper and middle-class parents are more likely to use school achievement data to place their child in the best-performing schools (see Blanchenay and Burns, this volume, for a more detailed discussion). Parents with lower incomes (including, in many countries, high proportions of immigrant parents) may often lack the capacity to use such data, or indeed base their decisions on other factors, such as geographical proximity and the availability of public transport to access the school (Elacqua et al, 2006).

42. Both the efficiency and equity arguments are important and suggest that the use of data for decision-making is one of the key needs of a modern education system. This raises important questions from a governance perspective:

- What type of data should be collected (in particular, what balance between qualitative and quantitative data)? At which level? By whom? And what for?
- How well does access to data enable better accountability, with more carefully crafted incentives and responsibilities better tailored to local context?
- What is the best way to create capacity for the use of data (among local decision-makers and central authorities, as well as school administrators and teachers)?
- Is it possible to have ‘too much’ data?

### *Strategic Thinking*

43. Modern governance increasingly relies on strategic thinking to balance the immediate needs and urgencies with longer-term planning and steering of the system. This is not just an education issue, but rather one that touches on all public sectors. Earlier in this chapter the case was made for the concept of a *smarter state* (see Box 1) or a strategic state, that “*targets its investments to maximize growth in the face of hard budget constraints [and] departs both, from the Keynesian view of a state sustaining growth through demand-driven policies, and from the neoliberal view of a minimal state confined to its regalian functions (public order, basic services)*” (Aghion, 2012). In times of economic and fiscal constraint, the argument is that we can no longer afford business as usual. A strategic state implies building the systemic capacity of the government to improve policy design, steering, and implementation over the long-term.

44. This is a challenge in education. Although it is often argued that increasing decentralisation and increasing school autonomy have contributed to reducing the time available for strategic and system thinking, in the sense that the time required to manage the day-to-day of a more complex system takes away from longer-term thinking, it is clear that this is not the only issue. Difficulties in reconciling time spent on strategy and the ability to design and, crucially, deliver on a long-term agenda are due at least as much to the requirements of the political timeline for voting and agenda setting (OECD, 2009; Blanchenay and Burns; this volume). Regardless of where the problem stems from, there are serious problems with the capacity to engage in and deliver on strategic thinking in many countries, especially outside larger cities.

45. In general, the central level plays a crucial role in supporting strategic thinking at the local level: capacity building, providing information and offering frameworks. A number of countries have experimented with techniques of strategic thinking in order to find consensus on mid-term national strategies, for example through open consultations and in building and designing visions for the future. The processes are important but very complicated to run, especially given the speed of change and expectations for quick government responses to demands and events. Yet strategic thinking is more and more necessary in complex systems, which require both a holistic vision and the flexibility to deal with change. As one country representative remarked: “*it is no longer enough to write a white paper and say we are done with the topic*”.

46. In order to enhance a system’s ability for long-term policy design some basic preconditions need to be addressed. These include the integration of different types of knowledge and the enhancement of trust between different actors. There is also a fundamental question of how to design and maintain a long-term strategy in the face of new forces in education such as the 24-hour-media news cycle and school rankings, which are easily picked up and utilised to push for quick changes.

### *Principles of modern governance*

47. These observations and the work of the GCES project in CERI/OECD have generated a number of principles for modern governance which are key to strategic thinking. They are:

- *There is no one right system of governance.* In principle, nearly all governance structures can be successful in education under the right conditions. Successful systems range from fully centralised to almost completely decentralised; some delegate great autonomy to lower levels; in others the central level holds the key to crucial decisions. The number of levels, and the power at each level, is not what makes or breaks a good system. While structures take up a lot of space in the discussion about successful governance, it is more fruitful to focus on processes.

- *Effective modern governance is a balancing act.* Systems must find a balance between accountability and trust, between innovation and risk-avoidance, and between consensus building and making difficult choices. Finding the right balance will depend on the context and history of the system, as well as the ambitions and expectations for its future.
- *Effective governance works through building capacity, open dialogue, and stakeholder involvement.* However it is not rudderless: involvement of a broader range of stakeholders only works when there is a strategic vision and set of processes to harness their ideas and input.
- Even in decentralised systems, *the national or state level remains very important* in triggering and steering education reform. The central level most often provides the strategic vision needed to enable effective delivery of reform as well as equitable access and outcomes for students. It can also be instrumental in developing clear guidelines and goals, and providing feedback on the progress on those goals, the building blocks of any successful governance and reform process (Wilkoszewski and Sundby, 2014).
- *There is a need to develop key principles for system governance* (not just agreement on where to go, but *how to get there*). Examples of goals include reducing the drop-out rate and improving student attainment. Examples of key principles underlying the governance and decision-making used to achieve those goals would be having a system that is open, inclusive, positive, and evidence-informed.

### **This volume**

48. The volume is organised in four parts tied closely to the work done by the Governing Complex Education Systems project.

#### *Part I: Setting the stage: Modern Governance Challenges in Education*

49. Following this Introduction by the OECD Secretariat, Mark Mason's *Complexity Theory in Education Governance: Initiating and Sustaining Systemic Change* continues setting the stage of this publication. The chapter focuses the notion of complexity and what it means for education governance. Departing from an overview of general complexity theory, Mason discusses the concept's relevance for education governance and how the lens of complexity theory can aid policy making.

50. Henno Theisens' chapter problematizes the growing complexity of society and its demands on governance: decentralisation trends in past decades can be seen as efforts to accommodate this complexity. The chapter *Education Governance: Hierarchies, Networks and Improvisation* describes that a return to centralized planning is neither feasible nor desirable: Central rational planning has become too unwieldy for the dynamic and fast paced challenges of modern societies. While the ubiquitous trend towards decentralisation and marketization has serious shortcomings, it has succeeded in moving decision-making processes closer to the respective stakeholders. Theisens proposes an approach labelled "governance through networks" where informal and dynamic networks take the place of central planning and marketization. The civil servant's role is conceptualised as that of an actor within the networks rather than that of a representative of a hierarchical government and rational planning. Nevertheless the central level takes a steering and enabling role, providing the overall framework in which the networks function.

*Part II – The Role of Accountability in Governing Complex Systems*

51. The second part of this volume revolves around the role and consequences of accountability mechanisms for governance and those who are held accountable. Decentralisation has been accompanied in many countries with a greater use of assessment and evaluation systems aimed at holding lower levels accountable for their practices. This pertains to lower levels of governance as well as ultimately to schools and teachers. William Smith critically examines school accountability systems based on student test scores in *Exploring Educator Based Testing for Accountability: The Relationship between National Testing Policies and Student Achievement*. The chapter finds that high-stakes systems have adverse effects on teaching practices such as teaching to the test and narrowing the curriculum.

52. Edith Hooge's *Making Multiple School Accountability Work* is directly related to Smith's work on the effects of narrow accountability for educational outcomes. Discussing the inclusion of local stakeholders on the horizontal level, the chapter explores prerequisites enabling schools to go beyond the statistics provided by student testing in assessing their performance. A system of horizontal accountability amends standardised student testing by drawing on insights of local stakeholders in areas such as priority setting and performance evaluation. If done right, such horizontal accountability mechanisms are an opportunity to reduce vertical accountability as it gives schools the means to present a fuller picture of their performance to central governance levels. On another level, building capacity of schools to accommodate voices of local stakeholders can satisfy demand of transparency and involvement and facilitate acceptance of education reforms among the community.

*Part III – Capacity and the Use of Knowledge*

53. Lorenz Lassnigg's chapter reminds us that policy does not operate in a vacuum but is subject to the political set up, which sets the governance structure. Taking Austria's complex multilevel system as example, *Education as hostage of politics: Governance and Knowledge in a Bureaucratic-Federalist System* explores a number of issues related to the alignment of different logics present in structurally complex systems. Lassnigg describes how Austria's governance structure creates a tight corset of power distribution intended to increase political representation. The chapter discusses that by doing so the system leads to a large gap between formal structures and informal practices, paradoxically exacerbating the unpredictability it seeks to reduce.

54. The second source of friction is the tension between of the logics of normative and power-oriented politics on the one hand and the rational-technical approach of policy research on the other. While present likewise in decentralised and relatively simpler systems, Austria's complex and interlocking multilevel structure narrows the windows of opportunity for change where the logics of policy and politics work in the same direction.

55. Seeing Austria's political difficulties to change the governance structures towards more dynamic policy processes, Lassnigg proposes to strengthen professionalism of educators with a more active role in research to align policy research with practice. While Lassnigg is in line with Theisens' proposal by suggesting a more network-oriented, collaborative role of local actors in governance, the chapter makes clear that the political system with its processes revolving around power relations and politics' normative beliefs can be hard to change and that timing and adaptation of policies to country contexts are crucial to effect change.

56. Included in Lassnigg's paper as outlook, the second chapter in this area focuses directly on capacity and the use of knowledge in education. Based on the example of England (United Kingdom), Philippa Cordingley discusses how teacher involvement in research can be used to build teachers' capacity in their own research to improve instruction. In her chapter *Capacity Building at the Local Level: The Role*

of *Knowledge and the Use of Research*, Cordingley distinguishes between teachers' engagement with external research and, in a more advanced state, teachers' engaging in their own research with the goal to improve instruction – not only for local gain but also to contribute to improved instruction practices which can be scaled up to the system level.

57. The author emphasises the responsibility of governance to facilitate teachers' engaging with research not least by making research tools available that are practical in the specific work environment in schools. Teachers' role then ultimately is to identify so-called 'wicked issues' that are taken up in local teacher research and external research alike to improve instruction.

#### *Part IV – Complexity in Policy Making: Thinking Strategically*

58. The volume's final part closes the loop and returns to complexity theory. The two chapters in this section describe complexity theory as useful lens for policy makers to facilitate successful reform. Patrick Blanchenay and Tracey Burns' chapter *Experimentation in a Complex Environment* discusses the consequences for policy making when acknowledging the complexity of systems. The chapter discusses the profound dilemma between focused experiments and scaling up to the larger network of stakeholders as the complexity of systems is characterised by unpredictability, where an apparent small differences in context can lead to fundamentally different results. In order to evaluate experiments on a larger scale without implementing the respective policy in the whole system, the chapter proposes the concept of ecosystem experimentation. Ecosystems are conceptualized as networks of actors that are to a reasonable degree self-contained. Identifying networks with only weak links to other networks, ecosystem experimentation strikes a balance between the complexity of the system and its unpredictable consequences and evaluating its effect in reasonable diverse and large network of actors.

59. Inherent to policies and reforms implementation is the risk to fail, and even more so in policy experimentation and complex environments. Tracey Burns and Patrick Blanchenay discuss in *Learning to Fail, Not Failing to Learn* the importance of resilience to failure and its conception as an opportunity to learn. Policy makers need to recognize failure as an inherent part of policies and reforms, encourage constructive criticism and build the capacity and knowledge systems to learn from failure.

60. The chapter connects closely to Lassnigg's and Cordingley's work in this volume regarding the notion of educator capacity to create and use knowledge. It also ties to Edith Hooge's text in the publication's second part on Accountability systems, discussing multiple school accountability through involvement of local stakeholders in horizontal accountability systems. *Learning to Fail, Not Failing to Learn* further relates to William Smith's research in this volume as it emphasises the need to take risks which may be severely reduced if accountability systems rely on monitoring and reporting too narrow in focus.

#### **Concluding note**

61. The search for new modes of governance that will allow policy makers to address 21st century education governance challenges will certainly continue in the years to come. In a decade from now we may still be noting the same challenges in balancing accountability and innovation, and finding consensus and making difficult decisions. The agenda that has been set out here, and the challenge to create the open, adaptable, and flexible governance systems necessary for governing complex systems, is not an easy one. Pressures will continue to mount in terms of expectations for participatory governance as our world continues to become more networked and the role of social media – and media more broadly – emerges as a key actor. The rise in power of these actors will likely recast the processes (and potentially structures) of prioritising, steering and accountability.

62. From our perspective the greatest challenge of current educational governance is creating a strong accountability system that balances the monitoring and control element with a push for system improvement. What elements make up such a strong accountability system? And how can this be achieved in the particular contexts and traditions of each education system, especially given the tightening grip of finance ministries on education spending?

63. One last note. The discussion outlined in this chapter has an additional common theme running through it that has not been explicitly developed, that of trust. Trust is essential to good governance across a variety of policy areas, including education. Yet we know relatively little about how trust is developed and sustained over time, or restored if broken (Cerna, 2014). We will thus return to the theme of trust in the final concluding chapter, to examine this simple word – yet decidedly complex topic – more thoroughly.

## REFERENCES

- Aghion, P. (2012), “*Growth Policy and the State Implications for the Design of a European Growth Package*”, London School of Economics, Growth Commission, Institute of Government.
- Blanchenay, P., T. Burns and F. Köster (2014), “Shifting Responsibilities - 20 Years of Education Devolution in Sweden: A Governing Complex Education Systems Case Study”, *OECD Education Working Papers*, No. 104, OECD Publishing. <http://dx.doi.org/10.1787/5jz2jg1rqrd7-en>
- Borman, Geoffrey D. et al. (2003), “Comprehensive School Reform and Achievement: A Meta-Analysis” *Review of Educational Research*, Vol. 73, pp. 125-230.
- Busemeyer, M. and J. Vossiek (2015), “Reforming Education Governance Through Local Capacity-building: A Case Study of the “Learning Locally” Programme in Germany”, *OECD Education Working Papers*, No. 113, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5js6bhl2mxjg-en>
- Cerna L. (2014), “Trust: what it is and why it matters for governance and education”, *OECD Education Working Papers*, No. 108, OECD Publishing. <http://dx.doi.org/10.1787/5jxswcg0t6wl-en>
- Dror, Y. (1986). *Policy Making Under Adversity*, New York: Transaction Press.
- Elacqua, G.; M. Schneider and J. Buckley (2006), “School choice in Chile: Is it class or the classroom?” *Journal of Policy Analysis and Management*, Vol. 25, No. 3, pp. 577-601.
- Fazekas, M. and T. Burns (2012), “Exploring the Complex Interaction Between Governance and Knowledge in Education”, *OECD Education Working Papers*, No. 67, OECD Publishing. <http://dx.doi.org/10.1787/5k9flcx2l340-en>
- Hooge, E., T. Burns and H. Wilkoszewski (2012), “Looking Beyond the Numbers: Stakeholders and Multiple School Accountability”, *OECD Education Working Papers*, No. 85, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k91dl7ct6q6-en>
- Hopfenbeck, T. et al. (2013), “Balancing Trust and Accountability? The Assessment for Learning Programme in Norway: A Governing Complex Education Systems Case Study”, *OECD Education Working Papers*, No. 97, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k3txnpqlsnn-en>
- Mazurkiewicz, G., B. Walczak and M. Jewdokimow (2014), “Implementation of a New School Supervision System in Poland”, *OECD Education Working Papers*, No. 111, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5jxrlxrxgc6b-en>
- OECD (2015a), “Final NAEC Synthesis – New Approaches to Economic Challenges” (report), OECD, Paris, [www.oecd.org/mcm/documents/Final-NAEC-Synthesis-Report-CMIN2015-2.pdf](http://www.oecd.org/mcm/documents/Final-NAEC-Synthesis-Report-CMIN2015-2.pdf).
- OECD (2015b), *ILE final report on Implementation and Change*, OECD Publishing, Paris. [www.oecd.org/edu/schooling-redesigned-9789264245914-en.htm](http://www.oecd.org/edu/schooling-redesigned-9789264245914-en.htm)
- OECD (2013), “Synergies for Better Learning - An International Perspective on Evaluation and Assessment”, *OECD Reviews of Evaluation and Assessment in Education*, Paris, OECD Press.

- OECD (2009), *Working Out Change: Systemic Innovation in Vocational Education and Training*. OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264075924-en>
- Sabelli, N. H. (2006). "Complexity, technology, science, and education", *The Journal of the Learning Sciences*, Vol. 15, No. 1, pp. 5-9.
- Schildkamp, K., L. Karbautzki and J. Vanhoof (2014), "Exploring data use practices around Europe: Identifying enablers and barriers", *Studies in educational evaluation*, Vol. 42, pp.15-24.
- Snyder, S. (2013), "The Simple, the Complicated, and the Complex: Educational Reform Through the Lens of Complexity Theory", *OECD Education Working Papers*, No. 96, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k3txnpt1lnr-en>
- van Twist, M. et al. (2013), "Coping with Very Weak Primary Schools: Towards Smart Interventions in Dutch Education Policy", *OECD Education Working Papers*, No. 98, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5k3txnphld7-en>
- Waslander, S., C. Pater, and M. van der Weide (2010), *Markets in Education: An Analytical Review of Empirical Research on Market Mechanisms in Education*, *OECD Education Working Papers* No. 52, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5km4pskmkr27-en>
- Wilkoszewski, H. and E. Sundby (2014), "Steering from the Centre: New Modes of Governance in Multi-level Education Systems", *OECD Education Working Papers*, No. 109, OECD Publishing, Paris. <http://dx.doi.org/10.1787/5jxswcfs4s5g-en>

## ANNEX A – CENTRAL OUTPUTS OF THE GCES PROJECT

### *Case study series*

- *Flanders, Belgium:* Research on this case study will begin in early 2016. The proposed topic is the implementation of the core curriculum, and in particular the process for defining attainment targets and developmental goals. Although it has been in existence for quite some time, the question arises: how well has the core curriculum been implemented in practice?
- *Reforming Education Governance through Local Capacity-Building: A Case Study of the ‘Learning Locally’ Programme in Germany* (Busemeyer and Vossiek, 2015) finds that the “Learning Locally” Programme can be regarded as a success due to the fact that it had a lasting and probably sustainable impact. It reveals that a number of local factors influence the relative effectiveness of the implementation of the programme.
- *Implementation of a New School Supervision System in Poland* (Mazurkiewicz, Walczak and Jewdokimow, 2014) explores the strategies, processes and outcomes of an education reform in Poland which was introduced in 2009 and substantively changed the school inspection system.
- *Shifting Responsibilities: 20 years of Education Devolution in Sweden* (Blanchenay et al., 2014) examines the consequences of important education decentralisation reforms that took place in Sweden since the early 1990s.
- *Coping With Very Weak Primary Schools: Towards Smart Interventions in Dutch Education Policy* (van Twist, van der Steen, Kleiboer, Scherpenisse and Theisens, 2013) looks at the effectiveness of policy instruments aimed at reducing the number of underperforming primary schools in a system with a long tradition of school autonomy.
- *Balancing Trust and Accountability? The Assessment for Learning Programme in Norway* (Hopfenbeck, Tolo, Florez and El Masri, 2013) explores the implementation strategies used Norway to enhance formative assessment in its schools.

### *Working paper series*

- *Steering from the Centre: New modes of Governance in Multi-level Education Systems* (Wilkoszewski and Sundby, 2014) explores innovative governance strategies for the central level in education systems. It identifies core features of multilevel governance and introduces a basic analytical categorisation of modes of governance.
- *Trust: What It is and Why it matters for Education and Governance* (Cerna, 2014) analyses the centrality of trust for policymaking and current governance issues. Trust enables stakeholders to take risks, facilitates interactions and cooperation, and reduces the need for control and monitoring.
- *The Simple, the Complicated, and the Complex: Educational Reform through the Lens of Complexity Theory* (Snyder, 2013) explores complexity theory and its applications for educational reform. After discussing the key concepts of complex adaptive systems, the paper defines the differences between simple, complicated, and complex approaches to educational reform.

- *Exploring the Complex Interaction Between Governance and Knowledge in Education* (Fazekas and Burns, 2012) asks the question of how governance and knowledge mutually constitute and impact each other in complex education systems.
- *Looking Beyond the Numbers: Stakeholders and Multiple School Accountability* (Hooge, Burns and Wilkoszewski, 2012) analyses trends in accountability mechanisms and processes and argues that regulatory and school performance accountability can be usefully augmented by involving multiple stakeholders.

### **Conferences**

- *The Use of Data in Educational Governance* (12-13 February 2015 in Tallinn, Estonia) focused on the use of data for education governance. The main themes included the challenges of the use of data in education, some strategies that have been applied to tackle these challenges, and the kinds of support needed at different governance levels.
- *Understanding Complexity: The Future of Education Governance* (10 February 2014 in Oslo, Norway) revolved around the impact of complexity on education governance. At the conference were discussed the challenges of complexity for education, some of the approaches to cope with these challenges, as well as the identification of gaps in our knowledge base.
- *Effective Multilevel Governance in Education* (17-18 June 2013 in Paris, France) focused on two main themes in effective multilevel governance: transparency and trust. The conference was a joint collaboration between the OECD's Centre for Educational Research and Innovation (CERI) and UNESCO.
- *Effective Governance on the Local Level* (15-17 April 2012 in Warsaw, Poland) looked at the role of local stakeholders in the governance of complex education systems. The conference asked about the place of local authorities and schools in the governance process, how local authorities and schools can be ensured to have the capacity to govern their local systems and how local stakeholders can hold local authorities accountable.
- *Effective Governance from the Centre* (21-22 November 2011 in The Hague, The Netherlands) focused on the role of central government in complex, multilevel systems of governance. Even as regional, local and school levels receive more autonomy, the role of the centre is still crucial as it is being held accountable for education outcomes and is in the best position to ensure a common direction and set priorities.
- *The GCES Launch Conference* (28-29 March 2011 in Oslo, Norway) contributed to defining the scope and direction of the project. The conference explored which governance mechanisms and knowledge options facilitate effective steering of complex education systems by bringing together an international group of senior policy makers and researchers.