



## UvA-DARE (Digital Academic Repository)

### Developing teacher leadership and its impact in schools

Snoek, M.

**Publication date**  
2014

[Link to publication](#)

#### **Citation for published version (APA):**

Snoek, M. (2014). *Developing teacher leadership and its impact in schools*. [Thesis, externally prepared, Universiteit van Amsterdam].

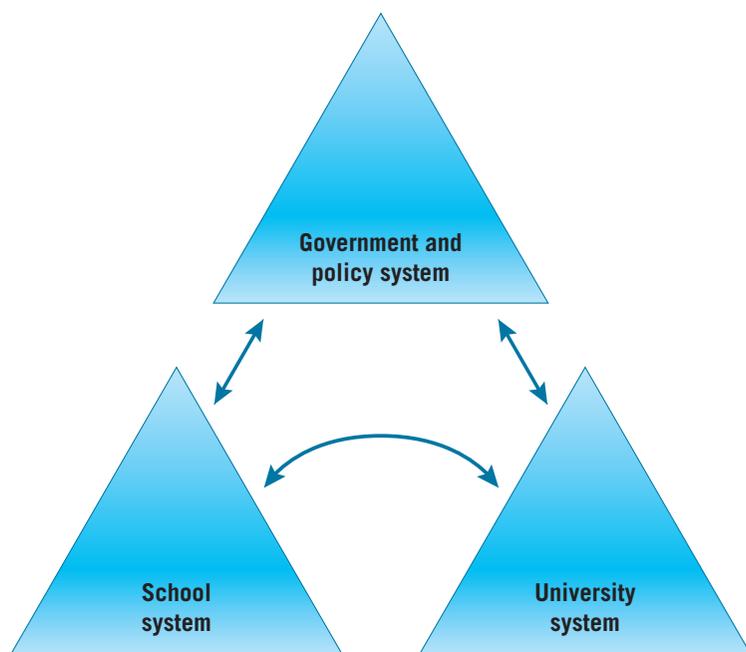
#### **General rights**

It is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), other than for strictly personal, individual use, unless the work is under an open content license (like Creative Commons).

#### **Disclaimer/Complaints regulations**

If you believe that digital publication of certain material infringes any of your rights or (privacy) interests, please let the Library know, stating your reasons. In case of a legitimate complaint, the Library will make the material inaccessible and/or remove it from the website. Please Ask the Library: <https://uba.uva.nl/en/contact>, or a letter to: Library of the University of Amsterdam, Secretariat, Singel 425, 1012 WP Amsterdam, The Netherlands. You will be contacted as soon as possible.

# 2





## CHAPTER 2

# From splendid isolation to crossed boundaries? The futures of teacher education in the light of activity theory.<sup>3</sup>

*Learning arrangements for teachers are the result of a complex interaction between several stakeholders. When we want to study these learning arrangements, their design, their contexts and the way they might develop in the near future, we need to take into account that interaction and its dynamics. Through the analysis of 48 scenario documents on the future of education or teacher education, a set of unpredictable key factors are identified that have to be taken into account when addressing the future of teacher education. From the analysis, four main prototypical future scenarios emerged, defining possible contexts for pre- and in-service teacher development. We analyzed these four scenarios using the concepts of activity systems, boundary objects, and boundary crossing. This revealed that the extent to which activity systems are open to boundary crossing and are willing to remove institutional boundaries, will largely define the future that lies ahead for teacher education. Future scenarios in themselves can play a role as boundary objects that facilitate the dialogue and boundary crossing between these activity systems.*

---

<sup>3</sup> This chapter is based on Snoek, M. (2013). From splendid isolation to crossed boundaries? The futures of teacher education in the light of activity theory. *Teacher Development*, 17(3), 307-321.

## 1. Introduction

When we want to study learning arrangements for teachers and the way they might develop, we need to understand which trends in society and education will influence the design of these learning arrangements and how these trends might impact the relation between schools and universities.

In many sectors in society, demands and arrangements regarding professional quality and professional development are negotiated by professional groups, their employers and providers of learning activities. However, when it comes to the teaching profession, there is another dynamics as governments feel a special responsibility towards the preparation of teachers (Snoek & Žogla, 2009). The quality of education is considered a matter of national concern and this quality is strongly related to the quality of the teaching force (Hattie, 2009). As a result, ministries of education in many countries feel a direct responsibility for the quality of the teaching force, which justifies a strong interest in teacher education and the identification of teacher development as a 'policy problem' (Bruner, 1996; Cochran-Smith & Fries, 2005). This responsibility has been translated into numerous policy initiatives and government-initiated innovation programmes focused on improving the quality of (pre-service and in-service) teacher education, through prescriptions regarding outcomes (standards), curriculum, conditions or structures. Examples of such policy initiatives can be found both on a transnational level (see e.g. Snoek, Uzerli and Schratz (2008)) and on a national level, with examples like Poland (Zdybel, Bogucki, & Głodzik, 2011), Sweden (Player-Koro, 2012), the United States (Sedlak, 2008), and the Netherlands (Snoek, 2011b).

Such policy plans for teacher education are often formulated in visionary terms like Obama's 'Our future, our teachers' (US Department of Education, 2011), the Dutch action plan of the teaching profession in 2020 *Actieplan Leraar2020* (Ministerie van OCW, 2011), Teaching Scotland's Future (Donaldson, 2011), and Austria's proposal for the future of the teaching profession and a new design for the teacher education system '*LehrerInnenbildung NEU – die Zukunft der pädagogischen Berufe*' (Härtel et al., 2010). These titles suggest that through these policy plans, governments want to shape new futures for education in their countries. Such policy plans suggest that to create that future, it is essential to develop and improve the education of teachers. If we want to have an indication of how arrangements for teacher development will look like in the coming years, we could take such policy plans (those of either governments or stakeholder groups, like teacher education institutes, teacher educators, teacher unions, etc.) as a starting point. However, the nature of these documents confronts us with two fundamental problems.

The first problem is that such policy documents describe a single desirable future, which leads to the question whether this future is the only and

best future we can imagine. What alternative futures can be imagined and what factors will be decisive in the way that one future will prevail over the other possible futures? This question is fundamental, as short-term thinking seems dominant in the area of education. As the long-term impact of education is fundamental in a society, it is essential to develop future-thinking perspectives to look beyond present problems and constraints, and to develop long-term sustainable policies (OECD, 2007; Snoek, 2003c). In these future-thinking perspectives, the fundamental unpredictability of the future and the possibility of different futures need to be taken into account.

The second problem is that when a desirable future is identified, we are confronted with the question how this future can be realized. The dominant assumption underlying many policy documents is that decision makers can influence the future by measures taken by the government. This rational-central-rule approach (Gunsteren, 1976) is based on the idea that through rational decisions society can be constructed and shaped according to our wishes. This assumption has proven wrong, as illustrated by the long list of ambitious policy plans that follow one upon another in some countries. It disregards the complexity of society and the existence of opposing forces that are striving for different futures. Defining a desired future and taking policy measures toward that future, does not automatically lead to change in complex systems like teacher education. To change teacher education in a specific desired direction, we need to conceptualize how to change current systems in specific, powerful ways (OECD, 2006b).

When we want to study learning arrangements for teachers and the way they might develop, we need to take into account the interaction between different stakeholders, the dynamics that will define this interaction, and its unpredictability. In this chapter we will try to gain a wider understanding of learning arrangements for teachers by looking at trends and development both within education and the wider society, and at the possible impact that these trends might have on the dynamics between schools and universities. In doing so we will have to avoid the problems identified above. We address the first problem by analyzing futures studies in the area of education/ teacher education that take into account the fundamental uncertainty of the future, and present not just one, but several alternative future scenarios. Although several scenario studies address the wider context of education, only a few had a specific focus on teacher education. Through this analysis, we identify key factors that have to be taken into account when shaping the future of teacher education. In this study, scenarios are considered boundary objects that facilitate dialogue between and the change of different activity systems (Bødker & Christiansen, 1997; Lebel, 2010; Pulver & VanDeveer, 2007). Therefore we address the second problem by using the concepts of activity systems, boundary crossing, and boundary objects to reflect on the dynamics of stakeholders and activity systems in shaping the future of teacher education.

## 2. Unpredictable factors and future scenarios

In their analysis of future-focused research, Codd, et al. (2002) conclude that most of the future-oriented research assumes that educational systems might be improved through incremental reforms. According to Codd et al., the studies can generally be characterized by an unquestioning endorsement of the status quo, a lack of imagination, and a lack of critique of current trends. In their analysis, they emphasize the distinction between 'forecasting' leading to future predictions, and 'foresighting' leading to alternative scenarios for the future.

Scenarios are consistent and coherent descriptions of alternative hypothetical futures that reflect different perspectives on past, present, and future developments, and can serve as a basis for action (Van Notten, 2006). They are mostly narrative – in the form of stories that play out in the future – or more descriptive, describing future system characteristics. Alternative scenarios take into account the fact that developments in society are not straightforward.

The scenario method has been widely used in business and the military to plan in situations of high uncertainty (Lebel, 2010) as a tool for strategic decision making or policymaking (OECD, 2006b; Schwartz, 1991; Van der Heijden, 2005). Future scenarios as a tool for strategic thinking in education were first used at the beginning of the 1990s by the Global Business Network (Ogilvy, 1992; Ogilvy, 1995). Their use has since been strongly stimulated by the Schooling for Tomorrow project of the OECD, which resulted in the OECD scenarios (2001) and several follow-up projects (OECD, 2006b). More recently, the scenario method has been considered a powerful tool for awareness raising, dialogue, reflection, and collaborative learning of professionals, like teachers and teacher educators (Benammer, Dale, Poortinga, Schwab, & Snoek, 2006; Laws & McLeod, 2003; OECD, 2007; Snoek, 2005).

As a starting point for developing scenarios, key factors in society are identified that shape the development of society and give meaning to isolated events. These key factors, which in scenario studies are often called 'driving forces', can be found in areas like society, technology, economy, ecology, and politics. These key factors are analyzed and evaluated on their possible impact and their unpredictability (Scarce & Fulton, 2004; Snoek, 2003c; Van der Heijden, 2005) using data from the present, for example, through careful analysis of present trends or by Delphi-type studies with panels of experts. Unpredictable key factors with high impact are used to develop alternative futures, which are usually reformulated in terms of a dichotomy or dilemma showing two possible and often opposing directions for the future. One-dimensional scenarios take one unpredictable key factor and present futures in which the impact of that key factor varies in terms of high or low. In most two-dimensional scenarios, two unpredictable key factors are formulated as dilemmas in terms of contrasting or competing values (Quinn & Rohrbaugh, 1983), and are combined in a two-dimensional matrix, typically leading to one or more sets of four quadrants, each representing a scenario. In multi-dimensional scenarios, like the OECD

scenarios, different unpredictable key factors are taken to their extremes and transformed into stories.

As a result, the study of scenarios for the future of teacher education can provide insight into key factors that are important in the area of teacher education today, and into the subjective understanding of the authors of the scenario studies with respect to how these key factors will work out within teacher education tomorrow.

### **3. Activity systems, boundary objects, and boundary crossing**

Scenario studies can show how the future might look like, but they do not conceptualize how systems can be changed or how a most desirable future can be realized. For this we need to understand the dynamics between stakeholders and the systems of which they are part. According to Bødker and Christiansen (1997), Pulver and VanDeveer (2007) and Lebel (2010), the notion of boundary objects provides a useful starting point for examining the role that future scenarios can play in the dynamics of change. Here, boundaries are understood as a social cultural difference between systems, practices, or social worlds, leading to a discontinuity in action or interaction between these systems. Boundary objects are artifacts that support the crossing of those boundaries by fulfilling a bridging function (Akkerman & Bakker, 2011; Star, 1989). In the literature on climate research, future scenarios are considered boundary objects, as their construction process requires bringing together people with different backgrounds, viewpoints, and knowledge to discuss implications in a heterogeneous group of experts, policymakers, and other stakeholders, thus bridging boundaries between systems (Lebel, 2010). In this way, scenarios provide a sheltered context for the usual confusing, contesting, or conflicting debate between science, practice (in our case, education) and policy (Pulver & VanDeveer, 2007).

The concepts of boundary crossing and boundary objects are integrated in Engeström's cultural historical activity theory on expansive learning (Engeström, 2001). In this theory, learning has a very broad meaning, including new understandings, identity development, change of practices, and institutional development (Akkerman & Bakker, 2011). Contrary to traditional learning theories, which focus on learning within the boundaries of a specific practice, Engeström's activity theory takes into account interactions between actors from different cultures, contexts, and activity systems. In the context of teacher education, this notion of different interacting activity systems is relevant, as the education of teachers connects several activity systems: different faculties within a teacher education institute, the school system as a context for teaching practice of student teachers or experienced teachers (Gorodetsky & Barak, 2008; Tsui & Law, 2007), or the policy system of the national ministry or local administration. Each of these activity systems represents different stakeholders, responsibilities, mechanisms, roles, etc.

The activity theory and the concept of boundary objects can help to understand the dynamics between different activity systems that are involved in teacher education and will have a role in shaping its future, and to understand how scenarios can support that dynamics as boundary objects, facilitating boundary crossing between different activity systems today.

## 4. Methodology

To understand the trends in society and education that will influence the design of learning arrangements for teachers and their impact on the dynamics and boundary crossing between schools and universities, we analyzed documents that present alternative scenarios for the future of education or teacher education, and reflected on these using the concepts of activity systems, boundary objects, and boundary crossing. In our analysis, we used four sub questions to draw conclusions from the scenario documents:

1. What dominant futures do the scenario documents present?
2. What unpredictable key factors are identified by scenario authors as relevant to the future of teacher education?
3. What are the implications of these possible futures for the dynamics and boundaries between the different activity systems?
4. What role can scenarios play in stimulating boundary crossing between activity systems?

### 4.1 Selection

The first step of the analysis process was to find published scenarios for the future of education or teacher education. As the focus of our study was on future scenarios as tools for strategic thinking and policy making, and less on academic debates, we chose to use Google and Google Scholar as search engines instead of the traditional academic research databases. In our search we used the terms “scenarios” or “futures”, combined with “teacher education”, “teacher training”, “teaching”, “teaching profession”, “teachers”, “education”, “schooling”, and “learning.” The decision to extend the search to such terms as “education”, “learning”, “teaching”, and “schooling” was grounded on two assumptions. First, we expected that general future scenarios for schooling, education, or learning would make little distinction between separate education sectors, and could therefore also be applied to teacher education. Second, we expected that future scenarios for education, learning, teaching, and schooling would have implications for the way in which teacher education unfolds within these scenarios.

1. ATEERDC19. 2003. Scenarios for the future of teacher education in Europe. *European Journal of Teacher Education* 26 (1), 21-36.
2. Bennell, P. 2004. *AIDS in Africa: Three scenarios for the education sector. Report prepared for the UNAIDS project, AIDS in Africa: Scenarios for the future.* Geneva: UNAIDS.
3. Berry, B. 2011. *Teaching 2030: What we must do for our students and our public schools: Now and in the future.* New York: Teachers College Press.

4. Bigum, C., and J. Kenway. 1998. New information technologies and the ambiguous future of schooling - some possible scenarios. In A. Hargreaves, A. Lieberman, M. Fullan & D. Hopkins (Eds.), *International handbook of educational change*, part 1 (pp. 375-395). Dordrecht: Kluwer.
5. Business Educa. Learning scenarios. 2011 [cited July/15 2012]. Available from <http://learningscenarios.org/>.
6. Cachia, R. 2011. *How do we foresee teacher collaboration networks in 2025?* Sevilla: European Commission Joint Research Centre/Institute for Prospective Technological Studies.
7. Craig, J., and C. Fieschi. 2007. *DIY professionalism: Futures for teaching*. London: DEMOS.
8. Daanen, H., and K. Facer. 2007. *2020 and beyond: Future scenarios for education in the age of new technologies*. Berkshire: Futurelab.
9. Facer, K. 2009. *Educational, social and technological futures: A report from the Beyond Current Horizons programme*. Slough (UK): Futurelab.
10. Freeman, O., and R. Watson. 2008. *Teaching for uncertain futures. The Open Book Scenarios - a project exploring possible futures of teaching*. Canberra: Teaching Australia - Australian Institute for Teaching and School Leadership Limited.
11. Geake, J., and P. Cooper. 2003. Cognitive neuroscience: Implications for education? *Westminster Studies in Education* 26 (1), 7-20.
12. Goodwin, B., L. Lefkowitz, C. Woempner, and E. Hubbell. 2011. *The future of schooling. Educating America in 2020*. Aurora, CO: McREL.
13. Harris, G. 2006. *The future of public primary education in the United States*. San Francisco: GBN.
14. Hume, W. R. 2007. *UC2025: The power and promise of ten*. Oakland CA: University of California.
15. Johnston, R. 2000. *Focus on the future of vocational education & training. Scenario planning project, an ANTA national project*. Melbourne: Victorian Office of Employment, Training and Tertiary Education.
16. Kirk, D. 2009. *Physical education futures*. London: Routledge.
17. KnowledgeWorks. 2020 Forecast: Creating the future of learning. 2011 [cited July/15 2012]. Available from <http://futureofed.org/>.
18. Lefkowitz, L., and V. Urquhart. 2005. *The future of schooling: Educating America in 2014*. Aurora, CO: McREL.
19. Leicester, G., K. Bloomer, and D. Stewart. 2009. *Transformative innovation in education*. Triarchy Press Ltd.
20. Miller, R. 2003. The future of the tertiary education sector: Scenarios for a learning society. Paper prepared for the OECD/Japanese Seminar on the Future of Universities, 11-12 December 2003, in Tokyo.
21. Moon, B., J. Leach, and M. P. Stevens. 2005. *Designing open and distance learning for teacher education in sub-saharan Africa: A toolkit for educators and planners*. Washington: The World Bank.
22. Moynagh, M., and R. Worsley. 2003. *Learning from the future: Scenarios for post-16 learning*. Hertford: Learning & Skills Research Centre.
23. New Zealand Ministry of Education. 2006. The secondary futures project. In OECD, *Think scenarios, rethink education* (pp. 145-154). Paris: OECD.
24. Newby, M. (2005). Looking to the future. *Journal of Education for Teaching*, 31(4), 253-261.
25. Niemi, H. (2000). Teacher education in Finland - current trends and future scenarios. In: *Teacher Education Policies in the European Union. Proceedings of the Conference on Teacher Education Policies in the European Union and Quality of Lifelong Learning*, 22 and 23 may 2000. Loule, Portugal. (pp. 51-64)
26. Norwich, B., and I. Lunt. 2005. Future schooling that includes children with SEN/ disability: A scenario planning approach. Paper presented at Future Schooling for SEN/ Disability, Policy seminar, 22 Sept 2005, Institute of Education, London University, NASEN, London.

27. OECD. 2001. *What schools for the future?* Paris: OECD.
28. OECD. 2006a. *Four future scenarios for higher education.* Paris: OECD.
29. Ogilvy, J. 1995. Education & community: Four scenarios for the future of public education. *The Deeper News (Global Business Network)* 6 (1), 1-34.
30. Ogilvy, J. 1992. Three scenarios for higher education. *The Deeper News (Global Business Network)* 3 (1), 3-35.
31. Ontario Ministry of Education - English-speaking system. 2006. The future of "teaching as a profession". In OECD, *Think scenarios, rethink education* (pp. 155-156). Paris: OECD.
32. Ontario Ministry of Education - French-speaking system. 2006. The vision 2020 initiative. In OECD, *Think scenarios, rethink education* (pp. 167-181). Paris: OECD.
33. Saussois, J. M. (2006). Scenarios, international comparisons, and key variables for educational scenario analysis. In OECD, *Think scenarios, rethink education* (pp. 53-67). Paris: OECD.
34. Schmelkes, S. 2008. Tomorrow's schools in Mexico: Three scenarios. *Journal of International Cooperation in Education* 11 (1), 97-112.
35. Schuck, S., and P. Abusson. 2010. Educational scenarios for digital futures. *Learning, Media and Technology* 35 (3), 293-305.
36. Scottish Enterprise Glasgow. 2006. *Learning futures - new design for learning. Initial report.* Glasgow: Scottish Enterprise Glasgow.
37. Seed, A. H. 2008. Redirecting the teaching profession. *Phi Delta Kappan* 14 (4), 586-589.
38. Sellin, B. 2002. *Scenarios and strategies for vocational education and lifelong learning in Europe: Summary of findings and conclusions of the joint CEDEFOP/ETF project (1998-2002).* CEDEFOP panorama series 40. Luxembourg: Office for Official Publications of the European Commission.
39. Snoek, M. et al. Leraar 2020 [Teacher 2020]. 2011 [cited July/15 2012]. Available from [www.leraar2020.nl](http://www.leraar2020.nl).
40. Snoek, M. 2003a. Scenarios for Dutch teacher education. A trip to Rome: Coach bus company or travel agency? *European Journal of Teacher Education* 26 (1), 123-35.
41. Song, H. 2008. Four scenarios of leapfrog for teacher training curriculum in China. *Futures Research Quarterly* 24 (1), 45-54.
42. South Australia DECS. 2006. *Creating the future.* Adelaide: Department for Education and Children's Services, South Australia.
43. Taylor, N., B. Fleisch, and J. Shindler. 2007. Education scenarios for 2019. Paper prepared for the key driving forces scenarios 2019, 11-12 June 2007, The office of the presidency South Africa.
44. Van Wieringen, F., B. Sellin, and G. Schmidt. 2003. *Future education: Learning the future. Scenarios and strategies in Europe.* Luxembourg: Office for Official Publications of the EC.
45. Victoria Office of Learning and Teaching. 2006. *Using future thinking tools to build school and system thinking and leadership. Initial and interim report.* Melbourne: Victorian Department of Education and Training, State of Victoria.
46. Volman, M. 2005. A variety of roles for a new type of teacher: Educational technology and the teaching profession. *Teaching and Teacher Education* 21 (1), 15-31.
47. Willumsen, J. 1999. Educational scenarios - Denmark as a leading country? On the latest developments in teacher education in Denmark. *TNTEE Publications 2 Teacher Education in Europe in the late 1990s, Evaluation and quality 2* (2), 95-102.
48. Young, M., and J. Muller. 2010. Three educational scenarios for the future: Lessons from the sociology of knowledge. *European Journal of Education* 45 (1), 11-27.

Table 2.1: Overview of the scenario publications

In the final selection of documents, we used two criteria: Based on our definition of scenarios as presentations of multiple possible futures, only those publications were selected that presented two or more alternative descriptions of futures for

education/teacher education. Second, only original scenario documents were selected. We decided not to restrict the timeframe of our study in order to see to what extent the key factors that were considered relevant to the future of teacher education changed over the years taking the first GBN scenario on education as a starting point (Ogilvy, 1992). This selection process resulted in 48 texts that met both criteria presenting a broad overview of scenarios for the future of education/teacher education published in the period 1992–2011, covering scenario studies published by national or international governmental organizations<sup>4</sup>, stakeholder organizations or other non-governmental organizations and think-tanks, and academic papers where scenarios were used to categorize and present data with respect to trends in society and their possible impact on education, or to underline arguments.

## 4.2 Analysis

Each publication was analyzed qualitatively using a framework derived from Van Notten et al.'s classification framework for scenarios (2003). In our analysis, we used their distinction between characteristics of the *scenario process* and those of the *scenario content*. With respect to the process, we looked at the interactivity of the process of scenario development, in terms of the interaction and involvement between different stakeholders that participated in drawing the scenarios, and at the type of stakeholders that were involved. As for the content of the scenarios, we used a framework that distinguishes between the 'actors' and the 'factors' (Van Notten et al., 2003). Our analysis of actors focused on the key stakeholders in the scenarios and their roles, relations, and responsibilities. The factors are the unpredictable driving forces that the authors used to differentiate between the scenarios. We made a distinction between internal factors – which were part of the education system – and external factors, which were part of the wider societal system.

| Classification aspect |         | Characteristics                    |
|-----------------------|---------|------------------------------------|
| Scenario process      |         | Interactivity                      |
|                       |         | Type of stakeholders involved      |
| Scenario content      | Actors  | Roles, relations, responsibilities |
|                       | Factors | Internal factors                   |
|                       |         | External factors                   |

Table 2.2: Framework for analysis of the scenarios

## 4.3 Discussion

Based on the analysis of actors and factors, we identified four futures that largely summarized the set of scenario documents. To understand the implications of these possible futures for the dynamics and boundaries between the different activity systems, we rephrased the scenarios in terms of activity systems, focusing on the activity systems of teacher education institutes and schools, and the dynamics between the two.

<sup>4</sup> For brevity, scenario publications published by national agencies or ministries are referred to by using the country or state name. The full reference can be found in the list of references.

## 5. Results: Unpredictable key factors for the future of teacher education

In this section, we summarize the outcomes of the analysis of the scenario publications on education/teacher education, focusing on the scenario process and the scenario content, and identifying the actors and factors that are emphasized in the documents.

### 5.1 The scenario process: participation of stakeholders

Most two-dimensional or multi-dimensional scenario publications derived their power to initiate dialogue and change from the process by which a wide group of stakeholders were involved in developing the scenarios or discussing the outcomes (or both). These scenario processes were participatory in nature and involved various stakeholders, supporting a stronger validation and starting a wider dialogue between stakeholders. In several scenario projects, the process was limited to one type of stakeholder: teachers (Berry, 2011; Cachia, 2011; Snoek, 2011a; Song, 2008) or teacher educators (ATEERDC19, 2003; Snoek, 2003b) or VET-experts (Sellin, 2002; Van Wieringen, Sellin, & Schmidt, 2003). Especially the scenario projects that were part of the OECD Schooling for Tomorrow project are based on a wider consultation and involvement of a variety of stakeholder groups, often in multiple regional sessions with parents, teachers, school leaders, business representatives, and policymakers, involving several rounds of consulting, writing, validating, and rewriting. Most of these scenario projects were initiated by governmental organizations or think-tanks. Most of the documents that present one-dimensional scenarios are not the result of such a participatory process, as they were developed by a single expert or a small group of experts. These scenario studies derive their authority to initiate dialogue and change from the academic expert status of the author(s) or from the organization they work for, like the OECD, World Bank, or Futurelab.

A distinction can be made between scenario publications that are normative, have a particular agenda for the future, and advocate a specific most desirable future, and scenario publications that use an open approach, presenting a set of scenarios without an explicit preset preference with respect to a most desirable future. This distinction shows that scenarios can be both entry points for debate, or instruments for marketing and persuasion (Lebel, 2010). In general, the one-dimensional scenarios are normative – presenting a worst-case and a most desirable scenario – while the two-dimensional and multi-dimensional scenarios are open ended, as the authors of the scenario stories have tried to write each scenario from a neutral or positive perspective (except for the ‘meltdown’ and ‘schools as bureaucratic institutes’ scenarios from the OECD Schooling for Tomorrow project). These scenarios thus do not provide a specific direction toward the future and invite readers to engage in an open dialogue about alternatives and uncertainties.

## 5.2 The scenario content: Actors and factors

### 5.2.1 Actors: who takes the lead?

The various scenarios identify different leading actors: governments, local communities, parents, schools, teacher education institutes, and teacher educators. Several scenarios focus on the key issue of who should take the lead in setting directions, providing guidelines, and defining structures for education/teacher education.

A first set of scenarios describe a future in which teacher education is dominated by the customers – those who have to benefit from the outcomes of learning processes. This might be the parents, pupils, or students, who wish to have maximum freedom of choice with respect to learning arrangements according to their specific needs or preferences (Norwich & Lunt, 2005; Victoria Office of Learning and Teaching, 2006), or the labor market as the future employers of graduates. In futures where the employers of graduates are leading, schools are focused learning organizations (New Zealand Ministry of Education, 2006; OECD, 2001; Ontario Ministry of Education, 2006b; South Australia DECS, 2006; Victoria Office of Learning and Teaching, 2006) that define their needs and expect teacher education institutes to adapt their curricula according to those needs (ATEERDC19, 2003).

Scenarios in which the customers are leading fit within a neoliberal market model scenario, in which education is dominated by market forces, and traditional education institutes and commercial companies compete to enroll as many pupils or students as possible and to gain a maximum market share. In such a scenario, education is a commodity and education institutes will commercialize and compete in educational entrepreneurship (Freeman & Watson, 2008; Miller, 2003; New Zealand Ministry of Education, 2006; Newby, 2005; OECD, 2001; OECD, 2006a; Ogilvy, 1992; Ontario Ministry of Education, 2006a; Ontario Ministry of Education, 2006b).

As education is an essential provision within a society, several scenarios envision a future in which not so much market forces dominate, but in which the government plays a decisive role in defining the guidelines, content, and structure for schools, the teaching profession, and teacher education. The justification for a decisive role of the government can lie in the need for a coherent and transparent system (ATEERDC19, 2003; Johnston, 2000; Norwich & Lunt, 2005), the need for international competition and cooperation (Willumsen, 1999), the need to safeguard the quality of the educational system (Lefkowitz & Urquhart, 2005; OECD, 2006a; Seed, 2008; Snoek, 2003b), or the need to align education with economic development (Harris, 2006; Johnston, 2000).

Other scenarios foresee a future in which education is seen as an essential responsibility of the society, but where the driving force within the education system is not a national government, but a local community. These future

scenarios emphasize the role of schools as social centers where teachers and parents work in close cooperation with a focus on inclusion, citizenship, local coherence, or parental choice (Craig & Fieschi, 2007; Harris, 2006; New Zealand Ministry of Education, 2006; Newby, 2005; Norwich & Lunt, 2005; OECD, 2001; OECD, 2006a; Ogilvy, 1992; Ogilvy, 1995; Ontario Ministry of Education, 2006a; Ontario Ministry of Education, 2006b; Scottish Enterprise Glasgow, 2006; South Australia DECS, 2006; Victoria Office of Learning and Teaching, 2006).

A different future is foreseen in scenarios in which teachers or teacher educators take the lead as professionals, setting directions based on an extended professionalism through strong professional networks or councils (Berry, 2011; KnowledgeWorks, 2011; Niemi, 2000; Saussois, 2006; Schmelkes, 2008; Seed, 2008; Snoek, 2003b; Snoek, 2011a).

A last set of scenarios describes a possible future that is not dominated by one specific dominant stakeholder in terms of national or local governments, the customers, the educational providers, or the teaching profession, but is characterized by networking in flexible and decentralized communities without formal hierarchies. Such scenarios are inspired by network and complexity theories (Cachia, 2011; New Zealand Ministry of Education, 2006; Newby, 2005; OECD, 2001; OECD, 2006a; Ogilvy, 1992; Ontario Ministry of Education, 2006a; Ontario Ministry of Education, 2006b; Saussois, 2006; Victoria Office of Learning and Teaching, 2006).

Looking at these scenario sets, we can identify four typical and dominant scenarios, namely scenarios focusing on a market model (with parents/students or employers as customers and commercialized institutes), on bureaucracy (dominated by national governments or local communities), on the professionalism of teachers/teacher educators (based on collective self-steering by teachers or teacher educators), or on decentralized networks (characterized by flexibility and crossing of institutional borders).

### **5.2.2 Factors: internal structures**

All scenario documents take one or more internal factors or driving forces with high impact and high unpredictability, to create the fundamental differences between the alternative scenarios. In most scenarios, these factors are formulated in terms of dichotomies or dilemmas, either explicitly in terms of axes in the scenario matrix, or more implicitly in contrasting scenario stories.

In the analysis of the internal factors, we made a distinction between factors relating to the central aims within the education system (e.g., focusing on economic development, on individual opportunities, or on social cohesion), factors regarding the curriculum content (e.g., with respect to narrow or wide interpretations of learning aims, or a reproductive or productive focus on knowledge), factors relating to the pedagogy of teaching and learning (e.g., concerning the recognition of informal learning, the room for individual

learning paths, the role of virtual learning environments, and the recognition of collaborative learning), and factors relating to organizational structures (e.g., the room for choice of parents or students, the amount of trust or control and its relation to detailed regulations and testing, the role of formalized hierarchical organization structures, the permeability of institutional boundaries, or the institutional adaptivity and openness to change) (see table 2.3).

| Internal factor                                                                     | Scenario publication                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Aims</b>                                                                         |                                                                                                                                                                                                                                                                                                                           |
| Economy                                                                             | (Harris, 2006; Miller, 2003; Moynagh & Worsley, 2003; Van Wieringen et al., 2003)                                                                                                                                                                                                                                         |
| Individual, elitist                                                                 | (ATEERDC19, 2003; Facer, 2009; Lefkowitz & Urquhart, 2005; New Zealand Ministry of Education, 2006; Norwich & Lunt, 2005; Schmelkes, 2008; Scottish Enterprise Glasgow, 2006; Victoria Office of Learning and Teaching, 2006)                                                                                             |
| Communal, inclusive                                                                 | (ATEERDC19, 2003; Facer, 2009; KnowledgeWorks, 2011; Lefkowitz & Urquhart, 2005; New Zealand Ministry of Education, 2006; OECD, 2001; Ogilvy, 1995; Ontario Ministry of Education, 2006b; Schmelkes, 2008; Scottish Enterprise Glasgow, 2006; Van Wieringen et al., 2003; Victoria Office of Learning and Teaching, 2006) |
| <b>Curriculum</b>                                                                   |                                                                                                                                                                                                                                                                                                                           |
| Narrow (knowledge) vs. wide (including attitudes and values)                        | (Kirk, 2009; Schmelkes, 2008)                                                                                                                                                                                                                                                                                             |
| Reproductive (focus on testing) vs. productive learning (pupil/student as prosumer) | (Seed, 2008; Snoek, 2011a)                                                                                                                                                                                                                                                                                                |
| <b>Pedagogy</b>                                                                     |                                                                                                                                                                                                                                                                                                                           |
| Restricted to formal learning vs. recognition of informal learning                  | (KnowledgeWorks, 2011; New Zealand Ministry of Education, 2006; Newby, 2005; South Australia DECS, 2006)                                                                                                                                                                                                                  |
| Standardized (closed) vs. individual tailor-made learning (open)                    | (ATEERDC19, 2003; Kirk, 2009; Lefkowitz & Urquhart, 2005; Saussois, 2006; Snoek, 2011a)                                                                                                                                                                                                                                   |
| Face-to-face vs. virtual and online learning                                        | (Berry, 2011; Bigum & Kenway, 1998; Cachia, 2011; Daanen & Facer, 2007; Moon, Leach, & Stevens, 2005; Schuck & Aubusson, 2010; Volman, 2005)                                                                                                                                                                              |
| Individual, isolated learning vs. collaborative learning in communities             | (Berry, 2011; Business Educa, 2011; Cachia, 2011; KnowledgeWorks, 2011; New Zealand Ministry of Education, 2006; Newby, 2005; OECD, 2001; Ontario Ministry of Education, 2006a; Ontario Ministry of Education, 2006b; Volman, 2005)                                                                                       |
| <b>Organizational structure</b>                                                     |                                                                                                                                                                                                                                                                                                                           |
| Standardized vs. diversified with individual choice                                 | (ATEERDC19, 2003; Lefkowitz & Urquhart, 2005; New Zealand Ministry of Education, 2006; Newby, 2005; Norwich & Lunt, 2005; Ogilvy, 1995; Sellin, 2002; Victoria Office of Learning and Teaching, 2006; Willumsen, 1999)                                                                                                    |
|                                                                                     |                                                                                                                                                                                                                                                                                                                           |

|                                                                                                                                                |                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Controlled through prescriptions, regulations, and tests vs. trusted with freedom for teachers                                                 | (Goodwin, Lefkowitz, Woempner, & Hubbell, 2011; Johnston, 2000; Lefkowitz & Urquhart, 2005; Leicester, Bloomer, & Stewart, 2009; Saussois, 2006; Seed, 2008) |
| Hierarchical structures based on formal roles and credentials vs. informal structures based on personal merits and informal teacher leadership | (Business Educa, 2011; Miller, 2003; Saussois, 2006)                                                                                                         |
| Compartmentalized and institutionalized structures characterized by boundaries vs. fluid, integrated, and intertwined structures               | (Geake & Cooper, 2003; Niemi, 2000; South Australia DECS, 2006; Young & Muller, 2010)                                                                        |
| Adaptivity and openness to change                                                                                                              | (Facer, 2009; Goodwin et al., 2011; Kirk, 2009; Leicester et al., 2009; Moon et al., 2005; Taylor, Fleisch, & Shindler, 2007)                                |

Table 2.3: Internal factors influencing the future of education/teacher education

### 5.2.3 Factors: external context

Several scenarios focus on external factors that will influence the future of education/teacher education: Scenarios vary in how they foresee the abundance vs. scarcity of teachers, the status of teachers, the willingness of governments to invest in education/teacher education, the speed of technological development and implementation in education, the competitiveness of the work sector, the extent of globalization, and the development of the economy and resources. Although these factors cannot easily be influenced by stakeholders in the area of education, scenario authors foresee that they might have a large impact on the future of education/teacher education (see table 2.4).

| External factor                                                                  | Scenario publication                                                                                                                                  |
|----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Abundance vs. scarcity of teachers                                               | (Bennell, 2004; OECD, 2001)                                                                                                                           |
| High vs. low status of teachers                                                  | (OECD, 2001)                                                                                                                                          |
| High vs. low willingness of governments to invest in education/teacher education | (Moynagh & Worsley, 2003; OECD, 2001)                                                                                                                 |
| High vs. low speed of technological development and implementation in education  | (Daanen & Facer, 2007; Lefkowitz & Urquhart, 2005; Ogilvy, 1992)                                                                                      |
| High vs. low competitiveness of the work sector                                  | (Van Wieringen et al., 2003)                                                                                                                          |
| High vs. low extent of globalization                                             | (Johnston, 2000; Scottish Enterprise Glasgow, 2006; Victoria Office of Learning and Teaching, 2006)                                                   |
| Growth vs. decline of economy, high vs. low resources                            | (Freeman & Watson, 2008; Hume, 2007; Lefkowitz & Urquhart, 2005; Moon et al., 2005; Schmelkes, 2008; Taylor et al., 2007; Van Wieringen et al., 2003) |

Table 2.4: External factors influencing the future of education/teacher education

## 6. Discussion

Here, we summarize our findings and, using the concepts of activity system, boundary crossing, and boundary objects, draw conclusions with respect to the possible futures for teacher education and the dynamics between the activity systems in each of these futures.

### 6.1 Focus on the future of teacher education

In the search process to select scenario documents, we included such terms as education, schooling, and teachers. Of the 48 documents, only seven documents addressed teacher education directly, four documents addressed the future of higher education in general, and four documents explicitly addressed teachers' professional development, for example through networking (Cachia, 2011) and teacher professionalism (Craig & Fieschi, 2007; Snoek, 2011a). Most of the other texts address the education system or the teaching profession in general. However, as teacher education is part of the same system as schools, it is influenced by the same key factors. Snoek and Wielenga (2003) showed, for example, how all six OECD scenarios on education systems in general can be recognized in developments in teacher education in the Netherlands.

But at the same time, teacher education contributes to maintaining or changing the system by educating the teachers who are part of that system. Future development in the education system and in the teaching profession will therefore have an impact on what is expected from the teacher education curriculum. This implies that redesigning the future of schools and the education system, entails redesigning teacher education.

### 6.2 Scenarios as boundary objects

If scenario studies are to function as boundary objects helping to bridge intersecting practices – such as the activity systems of teacher education institutes, schools, and policy agencies – it is essential that they support communication by creating a shared understanding of driving forces and by supporting dialogue. The majority of the scenario projects, especially those within the context of the OECD Schooling for Tomorrow project, were characterized by intensive interactive dialogues between various stakeholders during the development or validation of the scenarios, or by discussions on the most desirable future. Other projects aimed at engaging a specific group of stakeholders - e.g., teachers - who have traditionally had marginalized voices in the policy debate. As such, these scenario projects functioned as boundary objects, bringing together stakeholders, bridging their activity systems, and supporting the dialogue in search of shared values. However, given the scope of our analysis, we cannot assess how successful these scenario projects were in facilitating this boundary crossing.

In a quarter of the documents, the scenarios were developed by academics for academic publications, without involving other stakeholders. The extent to which such scenarios act as boundary objects, facilitating boundary crossing

and dialogue between different stakeholders, is limited, especially when publication is restricted to academic journals.

### **6.3 Actors and their activity system: four dominant scenarios**

Based on our analysis of the actors and their roles, responsibilities, and interactions in the various scenario documents, we identified four dominant types of interaction, namely interaction based on a market model, on bureaucratic hierarchies, on professional self-steering, or on boundary crossing networks. Each of these can be translated into a typical future scenario for teacher education, with differences in the way in which the three activity systems that are involved in the education of teachers - the activity system of schools, the activity system of teacher education institutes, and the activity system of policymaking - interact with each other.

In a market-oriented future for teacher education, the activity system of the school is the most dominant and the least likely to change. The demands for teacher quality and for professional development are defined within that system. The activity system of teacher education institutes needs to adapt to those demands, as survival requires flexibility in the provision of courses and curricula. The activity system of policymaking is limited to creating the conditions for the interaction between the other two activity systems.

In a bureaucratic future, the activity system of policymaking is the most dominant and the most unlikely to change, as it sets the context for the other two activity systems, influencing the artifacts and rules of these two systems. The interaction between the activity systems of school and teacher education institutes will be limited, as they are addressed separately by the activity system of policymaking. Boundary activities are mostly shaped in terms of imposed regulations and negotiations between policymakers and pressure groups from the other two activity systems.

In a future that is dominated by the professionalism of teacher educators, the interactions between the three activity systems depend on how this professionalism is defined. If it is based on a narrow definition of professionalism, the activity system of teacher education institutes will focus on its autonomy with respect to the other activity systems. In that case, the boundary crossings between the three activity systems will be limited.

In these three possible futures, the most important boundary crossing between the activity system of the teacher education institute and that of the school will be done by teachers, educated (either pre-service or in-service) within one system with rules and artifacts that are focused on innovative didactics, professional development through learning and reflection, and research, while they are expected to perform within another system with other rules and artifacts that are governed by timetables and focused on exam results and collegial consensus. This boundary crossing will not be without tensions.

Whether this boundary crossing will lead to a change of activity systems can be doubted. The most likely is that the boundary crossers – whether student teachers, novice teachers, or experienced teachers engaged in in-service programs – will quickly adapt themselves to the rules and values of the activity system they are in. Despite many attempts in the past to bridge these two activity systems and to create intense partnerships, in many cases schools merely serve as ‘practice fields’ for pre-service teachers, without establishing shared cultural norms between teacher education institutes and schools (Gorodetsky & Barak, 2008). Niemi (2000) identifies as one of the main challenges for the future of teacher education, the fact that the current system is based on a rationalization process that has created social structures that keep teaching and learning cultures as unchangeable, leading to new teachers who continue to follow old traditions.

The dominance of institutional structures is taken for granted and reinforced in each of the three futures described above. Each activity system is focused on the primary output of its own system (graduated student teachers, exam results of pupils, or the efficiency and quality of the system as a whole), and communities in each of the activity systems are exclusive with little or no overlap.

In the fourth possible future for teacher education, these institutional structures are replaced by a network structure in which the activity systems of teacher education institutes and schools are integrated in a new activity system that focuses not on institutional boundaries, but on the process of teacher development. In this activity system, teacher educators, student teachers, and experienced teachers cooperate - with the support of school leaders and heads of department - in mixed communities of practice. These communities of practice are characterized by rules and values supporting curiosity, innovation, and development, while mediating artifacts support the bridge between teaching practice and research. Examples of such structures can be found in various places, such as ‘edge communities’ (Gorodetsky & Barak, 2008), academic development schools in the Netherlands (Snoek & Moens, 2011) and school-embedded Master’s programs (Cornelissen, 2011), supported by cross-institutional learning communities as mediating artifacts (Samaras, Freese, & Kosnik, 2008).

#### 6.4 Key factors and dilemmas

The key factors that we found in our analysis seem to have remained rather constant over the last 20 years: We found similar factors in both older and newer scenario documents. Through the selection of a limited number of key factors, the scenario publications reduce the complexity of reality to one or two key factors that are presented as dichotomies in terms of either/or. This is both their strength – highlighting topics and uncertainties – and their weakness, disregarding the complexity of reality, which might include a third option or a complex mixture of both. At the same time, by making

the underlying assumptions explicit, the scenarios sometimes show a new option. In discussions on teacher education, the emphasis is often on a market perspective of providers and customers in terms of schools or students, on the responsibility of the government to guarantee that all teacher graduates meet the minimum standards for teachers, or on the autonomy of universities. These three perspectives coincide with the first three scenarios, reflecting the logics of the free market, the bureaucracy, and the professional, as identified by Freidson (2001). However, several scenario texts suggest that in the future there might be a fourth logic, namely one that is characterized by interactive and dynamic multidisciplinary networks crossing institutional boundaries, based on network and complexity theory.

Most of these key factors are formulated in terms of a dilemma, whereby a choice has to be made. Which choice is considered the most desirable will depend on the perspective of the stakeholder and the values the stakeholder endorses. As in the four scenarios different stakeholders will have a leading position, the future direction regarding the key factors will be imposed differently on the other stakeholders. A lack of ongoing dialogue that crosses the boundaries between the activity systems will create ongoing tensions in the first three scenarios.

## 6.5 Limitations

Our analysis has a major limitation in that we looked only at scenario publications or references that were available online and could be connected to English search terms. Less than a quarter of the scenario documents are translations from scenario studies in other languages, or are focused on a non-Anglo-Saxon context (ATEERDC19, 2003; Bennell, 2004; Moon et al., 2005; Ontario Ministry of Education, 2006b; Schmelkes, 2008; Snoek, 2011a; Song, 2008; Taylor et al., 2007; Volman, 2005; Willumsen, 1999). As a result, the analysis was dominated by issues originating from an Anglo-Saxon culture and context.

A second limitation is that not all of the documents provided a full insight into the process of scenario development, and in some cases we had to deal with what little information could be extracted from the documents.

The third limitation is that our main focus was on the unpredictable key factors that defined the differences between the presented futures. The focus of the analysis was on the resulting scenarios, and not on the full process of developing the scenarios. As a consequence, other factors that were taken into consideration during the scenario process, but were not considered unpredictable or were not selected as key factors, were not included in the analysis. Also, the follow-up to the scenario process was also not part of the analysis. The outcomes of dialogues and the impact of the scenario process on policies and new directions, and therefore the impact of future scenarios as boundary objects, are interesting in themselves, but were not part of the analysis.

## 7. Conclusion

The analysis of future scenarios led to four main futures defining the contexts for teacher development and designs for learning arrangements for teachers, namely futures dominated by a market focus of schools and teacher education institutes, by a bureaucratic government, by self-steering professionals, or by a network approach unhindered by institutional boundaries. These possible futures will have different impact on the possible relations between schools and universities in (pre- and in-service) teacher education. The first two futures have the closest resemblance to today's situation, in which higher education is increasingly dominated by market approaches, and in which teacher education is confronted with an ongoing list of reform measures from governments,. The third future might be an attractive one from the perspective of teachers and teacher educators, but a condition is that teachers and teacher educators develop a collective identity, which does not seem the case yet (Snoek, Swennen, & Van der Klink, 2011; Swennen, 2012).

In all three scenarios, the activity systems of schools and universities continue to exist in isolation. The fourth future – the one based on networks – seems the most imaginative, transformative, and powerful when it comes to crossing boundaries, but it is also the most rigorous as it rearranges and transforms the existing boundaries and activity systems. In this last scenario, boundaries are intensively crossed, or even removed. Whether such a future lies ahead, depends on the strength of new and existing pilot projects and their power to survive and grow in a system that is still dominated by institutional boundaries and interests, and on the courage of all stakeholders in the area of teacher education to take the lifelong and holistic process of teacher development as a focal point.