



A futures perspective in Dutch geography education



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ABSTRACT

Geography education offers many possibilities for futures education. In The Netherlands, a future perspective is obvious in the vision behind the curriculum for secondary education, but this perspective becomes thinner and less open when elaborated in the syllabus, textbooks and examinations. From an intended ideal curriculum with challenging future relevant issues and a call for scenario thinking, it changes into a presentation of a fixed and often negative future in the perceived implemented curriculum. In a focus group meeting with stakeholders of the geography educators' community, there is recognition of the importance of a futures perspective. But there is also uncertainty and unfamiliarity, when it comes to implementing a futures perspective in geography education. Moreover, the institutional constraints, with an output testing regime, prevent the geography educators from making substantial room in their implemented curriculum for futures education. To enable geography teachers to implement or improve a futures perspective in their education, more clarity about the function and form is necessary. By researching and supporting good teaching practice, the expertise needed can be built, extended and used to empower a lobby advocating a more supportive national policy.

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1. Introduction

Although the importance of a futures perspective in education is broadly acknowledged, the implementation of a futures dimension in schools is far from easy (Hicks, 2012; Slaughter & Beare, 2011). Even where futures education pilots and experiments were successful (e.g. in the US and Australia in the 1990s), it proved to be complicated to give the future perspective a structural place in curricula and classroom practices (Slaughter, 2008). As a reason, current neoliberal societies' tendency to be short-sighted in terms of time is often mentioned (Slaughter, 2008). The Dutch situation clearly fits this pattern. In the case of geography education, a Vision Document (Commissie Aardrijkskunde Tweede Fase, 2003) published in 2003 for a new geography curriculum in upper secondary schools, mentions a stronger futures orientation as an intended innovation. However, the implemented new curriculum that came out of this, from 2007 onwards, only weakly reflects this intended innovation. This article researches the process of the 'thinning' of this innovative futures oriented intention from the intended curriculum to actual school examinations. The process is detected and analysed in Sections 3–5, after a brief introduction of the key ideas in futures education related to geography (Section 2). Moreover, in Section 6, we present an explanation for the limited effects of this innovation so far, based on discussions with an expert panel. Section 7 discusses what we can learn from this research.

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2. Futures education and geography education

On the relevance of futures education, Slaughter (Beare & Slaughter, 1993) asks the important question: ‘Why bother? Why ask anyone to think ahead when there are so many pressing demands in the here-and-now?’ [p.107]. The answers of futurists (Bell, 2009; Bussey & Inayatullah, 2008; Hicks, 2007) to this central ‘why’ question share the ambition of enlarging our ‘steering capacity’ concerning future developments. Also in publications on the relevance of futures perspectives and pedagogies in school geography (Lambert & Morgan, 2010; Morgan, 2006; Roberts, 2003, 2011; Smith, 2013) we see this pledge for more conscious action. Every day we scan the near future, mostly unconsciously, when we plan our daily life. We should also utilize this capacity in less trivial cases and on a larger scale. This might bring great advantages in terms of avoiding crisis management. Change and its effects are accelerating in speed, impact, and scope, making it even more necessary to deal with our influence in a more conscious way. Bussey and Inayatollah (Bussey & Inayatullah, 2008) argue for ‘a critical distance from the present’ when thinking about more innovative and creative responses to challenges. Geography, with its focuses on features and processes of our world at various scales and from different angles, offers many opportunities for taking such a distance. The point of studying geography or studying futures is not to control or predict, but to recognize the influence of the assumptions we have about the world and the future and to understand alternatives as a context for choice. Slaughter and Hicks, among many futurists, call for choices towards a sustainable future (Botkin, Elmadjra, & Malitza, 1979; Hicks, 2012; Slaughter, 2010).

Futurists are not the only ones to be concerned. Young people in Western countries express fear for the future when asked about their idea of the national or global future (Reynié, 2011). They seem to expect a grey or even black continuation of current national or global issues (Hicks & Holden, 2007). Often, simplified stereotype images of the future dominate Western (young) people’s minds. Most common are four future images: ‘business as usual’, where the future contains issues similar as today; ‘technological fix’, where solutions come from technological developments; ‘edge of disaster’, where more catastrophes will appear; and, finally, least common, ‘sustainable development’, requiring a fundamental change towards a more ecological, holistic world view (Béneker & Wevers, 2013; Hutchinson, 1996; Hicks, 2001). The media seem to influence and reinforce negative images (van Ginneken, 1998), and the main questions are whether and how education can support young people to create richer and more positive images.

In current educational practice, the future is mostly addressed implicitly and in general, ‘taken for granted’ terms (Bateman, 2012; Gough, 1988). In contrast to this, futures education invites students to literally ‘explore the future’ (Hicks, 2001): to look at futures critically and creatively, obviously on the basis of relevant knowledge and skills. Hicks (Hicks, 2007) suggest to use the classification often used by futurists which distinguishes between possible, probable, and preferable futures (Bell, 2009), [p.73]. Hicks’ advice is to focus on the latter two futures in classrooms: *probable futures* – images of what is most likely to come about – and *preferable futures* – versions people would like best, based on underlying values and beliefs. A clear notion of one’s preferable future may give direction to actions in the present. While exploring and envisioning alternative future images, students become aware of the factors underlying future images: how they vary between people, and why they do; how they differ in consequences for future generations; and how they affect priorities in the present. In terms of content, futures education covers global and local issues of sustainability, wealth and poverty, peace and conflict, and human rights. These issues are part of geography curricula all over the world. Futures perspectives on such issues help students to become more adaptable and proactive to change (Hicks, 2001). As Lambert and Morgan (Slaughter & Beare, 2011), [p65] phrase it in a capabilities approach: ‘geography is a subject that can contribute to young people’s propensity and disposition to think about alternative social, economic and environmental futures’.

Rogers and Tough (Rogers & Tough, 1996) describe what the process of learning for the future requires. In a first, rational phase, students obtain information, knowledge or theories on future issues. This cognitive exploration of the future will often evoke an emotional reaction. Considering the complexity of global future issues and the uncertainty and risks involved, this affective reaction is often negative (e.g. fear, denial, retreat and passivity), functioning as a protective defence mechanism. Teaching and learning processes unfortunately often stop here. But for futures education, it is of great importance that teachers help students move beyond such first, unconstructive reactions to an existential phase of reflection in which they recognize and articulate their own images of the future. This ‘personal lens’ is vital, because it relates to a person’s value orientation, just as images of the future do (van Egmond & de Vries, 2011). The combination of knowledge and value clarification is also the source of empowerment towards preferable futures; it opens doors to alternative, sometimes counter-intuitive views on global issues. This deep learning process, focused on the self and the future, strengthens students, and creates commitment and hope, which is needed for informed choice and action (Morgan, 2006; Rogers and Tough, 1996; Rogers & Tough, 1996) towards a preferred future.

3. A future-oriented geography curriculum in The Netherlands?

Geography is an optional subject in upper secondary education, and is chosen by one-third of all students (Béneker, 2012). In 2007 a new geography curriculum in upper secondary schools was implemented, based on a Vision Document, entitled *Regions in Perspective*, written by a commission of the Royal Dutch Geographical Association (KNAG) (Bussey & Inayatullah, 2008). The vision and the curriculum stemming from it contain a better balance – compared with the curriculum that was in place at that time – between global perspectives and local/regional studies, and between the social world (human geography) and the natural world (physical geography). It creates bridges between the global and

the local (such as effects of globalization in specific places) and between society and nature (with regard to climate change issues, for example). This is reflected in the broad outlines of the proposed new curriculum ((Bussey & Inayatullah, 2008) see Table 1). The underlying goal is to create, in a way that is attainable at school level, a 'state of the planet awareness' (Hanvey, 2004), [p.7].

With regard to pedagogy, there was a strong basis for keeping the former curriculum's focus on traditional skills in place (such as analytical skills, information skills, learning skills). However, the Vision Document also pledges for skills needed in more open, explorative and collaborative learning. In general, geography classes in The Netherlands strongly rely on studying texts and sources (like maps, photos, and graphs), and then processing this information through a large number of assignments. Textbook series are designed to be the number-one, and often only, source during a geography class (Béneker & van der Vaart, 2010). The innovative approach advocated by the Vision Document would counteract and supplement the current mainstream practice.

For a number of reasons, the Vision Document and its intended new curriculum may be seen as a futures-oriented innovation. First of all, the report states the importance and urgency of futures education (Commissie Aardrijkskunde Tweede Fase, 2003), [p.16]. Secondly, the chosen content fits into the framework of issues as recommended by Hicks (Hicks, 2012; Hicks, 2001) for futures education. Controversial global issues are included (climate change; the global food issue) as entry points for enquiry and debate. The inclusion of the Dutch spatial policy agenda invites teachers and students to become engaged in future-oriented classroom activities about topics such as flooding risks and urban issues. Thirdly, the report advocates pedagogy for open, critical, and creative thinking beyond stereotype probable futures.

The Vision Document seems a good starting point for the design and implementation of futures-oriented geography education. Educational research has shown, however, that the road from a curricular vision to an actual curriculum in school practice is long and bumpy (Bednarz, 2003; Goodlad et al., 1979; Goodlad, Klein, & Tye, 1979; Nieveen and Kuiper, 2012; Nieveen & Kuiper, 2012). Using Goodlad et al.'s approach (see Table 2), we can position the KNAG report and its vision as the 'ideal intended curriculum'. In line with Dutch national regulations, the ideas of the KNAG report were 'translated' into a rather detailed and formal syllabus: the 'formal intended curriculum' (reference: syllabus and handreiking (College voor Examens, 2010; Stichting Leerplan Ontwikkeling, 2007)). This syllabus in its turn became an essential source and guideline for textbook authors. The resulting textbooks are an important part of the 'perceived implemented curriculum', particularly because in The Netherlands textbooks largely define what is happening in the classroom (van den Berg et al., 2009). The syllabus is also used by the teams who construct the national centralized examinations for geography at the end of upper secondary education. These national exams can be seen as part of the 'curriculum in action' (operational implemented curriculum), and are very influential in teaching practice because 50% of a student's final grade depends on them.

Our research focuses on how the innovative intentions of the Vision Document were 'translated' (here meaning: diluted), stepwise, into 'practice'. Sections 4 and 5 respectively present the methodology and the results. It should be stressed however, that the 'attained curriculum' (see Table 2), which is the highly diverse actual daily practice in schools, was excluded from our analysis.

4. Methodology

The occurrence and nature of futures perspectives in the syllabus, textbook series, and national examinations were explored on the basis of a content analysis (Dogra, 2012); (for a practical application, see (Krippendorff, 1989)). We combined a quantitative approach in order to identify the importance of a futures perspective and a qualitative approach in order to get a more holistic view on the nature of a futures perspective.

4.1. Defining units of analysis

In terms of content, we selected two themes from the Vision Document with the most pertinent references to a futures orientation, i.e. '(global) climate change' (part of domain C, Table 1), and 'water issues in The Netherlands' (part of domain E). Climate change is part of the school exam, whereas 'water issues in The Netherlands' is part of the national examinations.

Table 1
Vision Document—broad outline of proposed curriculum.

Domain A skillsGeographical approach and research: formulating geographical questions; processing geographical information; presenting results	Domain B worldHuman geography: political, cultural and economic patterns and processes at different spatial scales in the context of globalization Domain D region in the developing world; functions as a regional case study	Domain C earthPhysical geography: patterns and processes for understanding the earth as a system (including 'global climate change' on which we focus later in this article) Domain E living environment: contemporary spatial issues in The Netherlands (including 'water issues in The Netherlands', on which we focus later in this article)
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Table 2

Goodlad et al.'s curriculum model (Goodlad et al., 1979).

Intended	Ideal formal	Vision, philosophy Intentions specified
Implemented	Perceived	Interpretation user
	Operational	Curriculum in action
Attained	Experiential	Perceived by learners
	Learned	Outcomes of learners

As unit of analysis the following sources were selected:

- from the syllabus: the formulated goals and objectives derived from those goals;
- from the textbooks of two market leading textbook series; (a) text units of minimally two continuous lines up to a paragraph and (b) assignments.
- from the national examinations: questions on 'water issues in The Netherlands' between 2010 and 2013.

The units were identified by close reading, looking for direct and indirect references to the future: *direct*, in the sense of indications of a future time: 'in 2030' or 'the climate in the future' (van den Berg et al., 2011a); and *indirect*, where, for example, developments and trends were described with probable continuation or consequences in the future, e.g. 'The Netherlands can't escape entirely from the combined effects of climate change, subsidence and sea level rise. . .' (Bulthuis, Gerits, & van den Bunder, 2012), [p.27]. To increase reliability, the identification and analysis of the units was done by both authors independently and all interpretations were discussed and cross-checked together. Table 3 shows to what extent the future was present in the selected documents.

4.2. Coding the units of analysis

For the coding of these selected units the following questions were used:

1. **Are multiple futures explored?** Is the future presented as open rather than fixed? For every unit of analysis this question can be answered with yes or no;
2. **Is a preferable future referred to?** Do texts or assignments refer to a desirable future? For every unit of analysis this question can be answered with yes or no;
3. **What future scenarios are presented?** The scenarios or images of the future were labeled by using Hicks' four most common scenarios of the future mentioned in Section 2 (Hicks, 2001). As an indicator for the scenario *Business as Usual*, we looked for key words expressing confidence in human capability to solve future issues ('nothing that can't eventually be effectively dealt with' (Hicks, 2001), [p. 232]. For the scenario *Technological Fix*, we looked for references to (solutions in) technology and science. For *Edge of Disaster*, we sought (ecological, economic, political or cultural) fundamental disruption. And for *Sustainable Society*, key words were sustainability itself and other terms indicating a major shift away from materialism.

For the analysis of the selected assignments in the textbook series and the selected questions from the national examinations, we added one extra question:

4. To what extent can a futures pedagogy be seen in the assignments and is this pedagogy tested in the national examination questions? A futures pedagogy is operationalized through the following questions:
 - (a) Do the assignments contain steps beyond the first rational stage of learning for the future (Rogers & Tough, 1996) (e.g. formulating grounded opinions and value clarification)?;
 - (b) Do the assignments invite to creative exploration of futures, as advocated by Hicks (Hicks, 2001)?

For every assignment (textbooks) and question (national examinations) the answer can be yes or no on these a and b questions.

Table 3

Presence of 'the future' in the analyzed documents.

Document →	Intended formal curriculum = Syllabus	Intended written curriculum = Text in textbook series	Intended written curriculum = Assignments in textbook series	Implemented operational curriculum = Questions in national examinations
Occurrence of future(s)?	2 of 6 goals2 of 22 objectives	25 text units in 166 textbook pages	92 of 433 assignments	4 of 33 questions

After the process of coding the units of analysis based on questions 1–4, we took a next step with a qualitative interpretation. In order to get a more holistic overview we did a close reading of all the units of analysis together, per source (syllabus, textbooks or exams). This way the results of the counting process are integrated and interpreted in their context (Devereux, 2007).

In Section 5, we present the outcomes of the content analysis. On the basis of the results of this analysis, we decided to organize a panel evaluation on these outcomes. Content analysis is best combined with other methodologies that focus on ‘producers’ and ‘consumers or audiences’ of the text in order to better understand the meaning of the texts (Devereux, 2007), [p.192]. Goal of this expert meeting was to explain and discuss our results together. In the interest of a logical, chronological structure in this article, the aim and approach of this panel evaluation are further described in Section 6.

5. Content analysis results

In this section, the results of the content analysis are shown. First, Table 4 shows the results of the quantitative part of the content analyses and its headlines (qualitative). The table is structured according to the four analysis questions in the former paragraph. The results are clarified further with the use of typical examples from the sources (syllabus (College voor Examens, 2010; Stichting Leerplan Ontwikkeling, 2007), books (Bulthuis et al., 2012; van den Berg et al., 2011a; van den Berg et al., 2011b; van den Berg et al., 2013a, 2013b; van den Bunder, Padmos, & van Wanrooij, 2011), exams (CVE, 2011; CVE, 2012) and Appendix). Also, a short summary per source is given.

The table shows a clear general picture. Multiple futures are present but outnumbered by fixed future images. Preferable futures are in an even greater minority. In the futures images a clear dominance of the Technological fix scenario can be seen, often combined with a business as usual scenario. The assignments and examinations do almost nowhere present steps for students to go beyond a cognitive phase and they do not invite students to think open and creative about futures. Examples per source will clarify this general picture further.

The **syllabus** requires students to take sustainability into account and judge governmental policies, on climate change and spatial planning. One of the two future oriented goals is: ‘the student includes aspects of sustainable development, when forming a substantiated opinion on current issues of flooding in The Netherlands’. This goal is further elaborated in a number of objectives, of which one is indirectly futures oriented: ‘the student can judge the management of the Dutch coastline, seen from the perspective of the natural processes and from the ecological and economic value of the coastline (College voor Examens, 2010) [p. 39]’. This illustrates how the syllabus implies futures and expresses very indirectly a preferred sustainable future. The syllabus emphasizes smart management and technology as key factors for attaining sustainability. The goal statements give no clues for an open and imaginative exploration of future water and climate issues. There are also no suggestions for classroom pedagogies like there were in the Vision Document, since the syllabus is a document on content.

Table 4

Summary of findings: futures in syllabus, textbooks, national examinations on the selected themes ‘climate change’ and ‘water issues’.

Units Of analysis	Multiple futures	Preferable futures	Futures images In rows 3 and 4: futures pedagogy	Qualitative summary
Syllabus: goals (2) and objectives (2)	0 goals 1 objective	2 goals 1 objective	1x Sustainable society 1x Technological fix	A sustainable future is presented as preferable and technology is presented as the means to get there. Future(s) images are mostly presented as containing future issues mankind can deal with, business as usual , with the help of technology and science, technological fix . A negative undertone expressed the edge of disaster -scenario frequently.
Text units in textbook series (25)	17	0	11x Business as usual 14x Technological fix 8x Edge of disaster	Future(s) images are frequently threatening (edge of disaster) but technology rescues, although threat and rescue are more nuanced than in the texts. Also, sustainability is mentioned.
Assignments in textbook series (92)	48	13	1x Business as usual 11x Technological fix 7x Edge of disaster 3x Sustainable society Futures pedagogy? 1 assignment on ‘forming’ an opinion. No exploration or creativity.	Future pedagogy almost absent.
Questions in National Examinations (4)	2	1	2x Business as usual 2x technological fix No futures pedagogy	The image is of a future in which technology helps us to deal with business as usual issues towards a known, preferable , alternative. A futures pedagogy is not visible.

In the futures-oriented **texts** (of the textbooks) the multiple-future scenarios are mentioned now and then. Awareness of the fact that we do not know what will happen is also expressed in words like 'possibly' or 'possible consequences', and is explicit in statements such as *'If one thing became clear, it is that, within climate studies, a lot is still unclear. ...'* (van den Bunder et al., 2011), [p. 110]. The acknowledgement of the importance of the future can be seen in paragraph titles as *'Sustainable energy'* (van den Bunder et al., 2011), [p.128] and *'The climate in the future'* (van den Berg et al., 2011a), [p.58] (although one liners are formally not part of the analysis). But, besides these openings towards multiple futures and promising headings, the general tone in future-oriented texts is that of presenting the probable way or ways (a few scenarios) things are going to be. Most references to the future are not formulated in terms of 'what could happen', but in 'what is going to or will happen'. The fixedness is shown in the strong verbs used: 'shall and will' dominate over 'might or could', e.g. *'Snow and ice coverage of the earth surface will diminish'* (Bulthuis et al., 2012), [p.27]. Besides being fixed, the texts are often negative about future possibilities and developments, as seen for example in this line presenting the *'effectiveness contrast: what is effective to diminish global warming is not obtainable on an international scale, and what is obtainable is not effective'* (van den Bunder et al., 2011), [p. 89]. This confirms the idea of little flexibility and opportunity for improvement. One textbook paragraph on *'climate change in the future'* begins with relating the debate on climate to the day of judgment in the Bible and Koran and ends with: *'Ouch, that was a lot of trouble!'* A clear reference to the edge of disaster scenario. The authors seem to be aware of this negative tone and continue: *'just like geography, sometimes it is complicated and seems like a problem, but actually it is a tremendous fascinating challenge'* (van den Berg et al., 2011a), [p.58]. The chapters generally show the same structure: first, students are informed about the central facts and processes behind climate change and the Dutch water issue. Then a policy overview is given. This could give the impression of matters 'being (technically) under control' or being nothing new: 'business as usual'. But then, the books pledge for a change in these policies. A chapter on climate policy, for example, ends with a comment on the western oil addiction: *'It is time for a good alternative'* (van den Berg et al., 2011a), [p.61]. And, when evaluating the policy on water issues, the conclusion is: *'time for a change of approach'* (Bulthuis et al., 2012), [p.81]. In other words: the textbooks first presents the issues as more or less under control, so 'business as usual' and 'technological fix' and then dismantle this completely. This could open doors to thinking and debate about future developments. Unfortunately, the texts do not give any substance or direction for this next step.

The **assignments** could have continued when the texts end, by making the step towards thinking and talking about futures. But the assignments show the same pattern as the texts: students are not encouraged to think about the future, but mostly need to apply information from the books to a (number of) fixed probable future(s), presenting what should be prevented (edge of disaster) through policy based on technology. Interestingly, the image of both disaster and fix in the assignments are nuanced a little. For example; an assignment on flooding asks: *'In what two ways is this solved at short notice?'* (van den Berg et al., 2011b), [p.95] expressing that not all is knowable on the long term. Even where key concepts of futures education are mentioned, students are not stimulated to use them in an effective way. As an example to illustrate this, a textbook says: *'Formulating a future expectation (1) is of little use if one is not willing to look at the consequences for the present (2)'* (van den Bunder et al., 2011), [p.106]. The assignment is: *'What concepts are applicable for numbers 1 and 2?'* Students can copy the concepts, being forecasting and back casting, literally from an identical line the textbook. So an important notion in futures education is reduced to a matching assignment that can be done without any idea of the content. The majority of the futures-oriented assignments focus on the correct application of information; it is thinking in a future setting, not about futures; e.g. *'What are the long-term consequences of volcanism on the earth's temperature?'* (van den Bunder et al., 2011), [p.86]. Only a few times does an assignment directly confront students with multiple scenarios. Even more scarce are assignments which work with or inform about preferable futures. Sustainability is mentioned three times, but in reproductive assignments, e.g. *'what is the essential goal of the Kyoto Treaty?'* (van den Bunder et al., 2011), [p.139]. A small number of assignments personally involve students by asking them about their expectation or opinion, or by presenting choices to be made, e.g. *'Name five consequences that global warming will have for you personally'* (van den Berg et al., 2011b), [p. 45]. The assignments which come most close to a future pedagogy are four case studies, at the end of chapters. For example, in one case study, students need to find the best energy mix for The Netherlands in 2030. These case studies are labeled as 'extra' and with the enormous number of assignments in Dutch geography books, it is doubtful whether they will be looked at. Unfortunately, even these best examples hardly move beyond the cognitive stage. Students reason and at best include a personal preference, but little debate, value clarification, or back casting is done. In general, the more open or personal assignments tend to be too broad and challenging, e.g. *'What is your opinion on climate change as outlined for The Netherlands?'* (van den Bunder et al., 2011), [p.50], or *'Think of a possible solution for the problems presented'* (van den Bunder et al., 2011), [p.112]—the problems being 18 global consequences of climate change, of which 17 are negative (e.g. geopolitical disputes, climate refugees). Futures pedagogy, as an effective way to work more exploratory and imaginatively is not found in the assignments.

National Examination questions could only be studied for the subject of Water Issues in The Netherlands, as Climate Change is part of the curriculum that is only tested in school exams, which vary per school. As Table 4 shows, the future is present in the exams, used as a setting for applying the knowledge described in the syllabus and books (CVE, 2011; CVE, 2012). In the two futures oriented questions referred to, a student needs to make a choice between (spatial) alternatives, e.g. *'which letter on the map, A, B, C or D, shows the location most fit for the next realization of this innovative coastal protection project?'* (CVE, 2012), [p8]. This means more than one scenario is possible. But it also illustrates the habit of thinking in knowable, technical alternatives for future development. The candidates are not expected to explore alternatives, but choose the correct answer based on the application of geography knowledge.

In conclusion, the Vision Document's ambition for more futures-oriented learning can only be seen to a limited extent and in an indirect way in the materials studied. This becomes more problematic as we see futures images with a negative connotation for which technology is the solution, and a lack of futures pedagogy.

6. Panel evaluation

After the content analysis we wanted to clarify the results found, and explored a second research question: *What explains the limited success, so far, of implementing futures education in Dutch school geography?* This was done by organizing a focus group meeting in which we presented the results of our analyses, and discussed what the experts saw as causes for the lack of a futures education. We spoke to 12 stakeholders within the community of Dutch school geography: five geography teachers, two textbook authors, a publisher, three geography teacher educators, an exam setter, an educational policy advisor, and a professor in geography and education (with some members having plural roles). The panel consisted of three women and nine men. Four members have a background in physical geography and eight members in human geography. The panel evaluation started with an open reaction of the panel members on the presented results. This was followed by a discussion in which key issues were identified. On two of the emerging key issues the discussion was deepened, being (1) the (national) educational context and (2) the characteristics of the geography teaching community. The meeting was recorded, transcribed and analyzed. The analysis was done by both authors independently and all interpretations were discussed and cross-checked together.

For the analysis we used the work of Sarah Bednarz on the implementation of the Geography Standards in the US (Bednarz, 2003). Bednarz distinguishes between the 'form' and the 'function' of an innovation in education. Of these two, the form, the educational technique, is most easily adopted by teachers, especially when the new ideas are familiar and congruent with existing understanding and beliefs. But the function of reforms, being the intention of an innovation, more easily gets lost. This function is often not clear or well institutionalized. And even when it is, it requires deep understanding of the content and often also the unlearning of old techniques and adaptation of new concepts and related practices by teachers. Whether this succeeds depends, according to Bednarz, on four factors: authority, power, prescriptiveness, and consistency. Is an innovation embedded in a law or proclaimed by a charismatic leader? Then the *authority* is stronger. *Power*, strongly related to authority, comes with clear-cut moments when the innovation is set against a norm or a sanction, as with high-stake tests or a national exam. *Prescriptive* innovations are explicit, clear, specific and manageable, and are therefore more often included when teachers decide what and how to teach. When innovations are complex and related to multiple aspects of the teaching and learning system, they are less likely to be implemented. Finally, the degree to which an innovation suits the existing educational system, its *consistency*, is defining. When, for example it is the easily fitting in, long-awaited answer to a current problem, its adoption is assured. An as necessary, but inconsistent change is more easily ignored or postponed. In addition to the above mentioned four external factors, Bednarz names internal issues, like teachers' misconceptions, perceptions, prior knowledge, and experiences. They play a role in the interpretation and understanding of the form and function of an innovation. It is important to study these internal factors, since Bednarz, as well as Hicks (Hicks, 2012), see the teacher as an agent of change and reform. The outcomes of the focus group meeting were categorized with Bednarz's theory as a framework of analysis. We used the four external factors (authority, power, prescriptiveness, and consistency) and clarified our analyses with quotes from panel members.

The call for futures education in formal geography documents is not strong or authoritative enough, according to the unanimous opinion of the panel members.

- It would be of great help if this (the future dimension) would be in the syllabus, because it would legitimize my attention for it (teacher).
- *It (the future dimension) is seen as something 'extra', not a goal, not a requirement* (teacher, teacher educator, and textbook author).

The vision does not explicitly use the language of futurists. Also, the vision contains a great number of ambitions, and futures education is not mentioned in the paragraph on 'fundamental choices'. The vision does speak of a clear societal urgency for futures education in the paragraph on '*the changing context of school geography*' (Commissie Aardrijkskunde Tweede Fase, 2003), [p.16]. In a broader, national policy framework, however, futures education is not explicitly on the agenda. As the geography educators do not recognize it in the curriculum, what Bednarz refers to as 'authority' is lacking.

As the number-one structural, institutional cause for limited innovation, all group members see the importance given to test results by the government, school managers, teachers, and parents.

- Teachers are fearful because the exam results are highly important to the management of the school (teacher).
- In practice? Teaching to testing (teacher educator).

The common way of testing focuses on knowledge reproduction and application and leaves little room for individual interpretation. One panel member, a publisher, pledges for testing through essay assignments, to stimulate teachers to

train students on this. Two members, a teacher and the educational policy advisor nuance the image by pointing at the indirect possibilities for futures exploration in the more flexible not centrally organized school exams, for which the individual school holds responsibility (and therefore has more autonomy in the way that formal goals are met). Still, they both also agree on the general tendency of teaching to the test. One of them points at the fact that in the local school exams teachers mostly choose to test in a manner similar to the national examination. When setting exams, the syllabus is used for guidance. But this influence is reciprocal; while forming the syllabus for geography, one criterion is: can the content be tested in clear-cut, fair assignments in the central exam? What Bednarz calls 'Power', the high stake central exam, is not working *for* but *against* this innovation.

While the aforementioned two outcomes of the focus group are related to the context of geography education, the following two factors characterize the geography community itself. First, the way of working on futures education, the pedagogy, turned out to be unclear to panel members.

- Teachers are unfamiliar with techniques to do this, to train, and evaluate this. It is very complicated (publisher).
- We have difficulties testing on the future of issues, because: what is this? (exam setter).

So, not being clear-cut and easily manageable, futures education misses out on Bednarz's required factor of prescriptiveness. Even more so, futures education pedagogy seems to conflict with the geography teachers' tradition of explaining geographical content, instead of putting forward open questions for students to explore and research.

- Geographers are explainers. People who think clearly. It should not become too vague (textbook author).
- As educators, we like to frame answers in clear schemes, and that is impossible when dealing with the future (teacher educator).

When the position of futures education became subject of debate, seven members expressed concern on the likelihood of geography teachers automatically going the extra mile to integrate a futures dimension in their education.

- The future is an issue for society. It is too big to be tackled by geography alone. We find this important, but what is the opinion of a 15/16 year old? (teacher and also teacher educator and textbook author).

This relates to the consistency with other influences within the educational system; instead of being the 'answer to all educational problems', futures education challenges educators extra. They need to think through their approach and might have to change it fundamentally. With teaching already being a crowded profession, there is insufficient time for this deep evaluation and renewal (Crump, 2005).

Throughout the discussion, internal factors influencing innovation were clearly present, in the form of the experience and prior knowledge of teachers in the panel.

- As I was originally a spatial planner, I explicitly talk about the future in class (teacher).
- We do a lot of debating in class. They get to see different points of view. It forces them to have a clear view on matters (teacher).

This illustrates that, although activities which explore the future are scarce in the *written* materials studied, in *classrooms* these activities do actually take place, depending on the initiative and capabilities of the teacher.

When studying the factors named by Bednarz that influence implementation, the perspective for futures education is problematic. According to the results of the panel evaluation, resistance against the innovation of futures education is there at the same time as support for and positive experiences with it. Having a consistent opinion on futures education requires a more explicit idea of what it means in terms of both function and form. Also, it requires teachers to engage in deep learning concerning formally unknown aspects of geography and new, challenging concepts of teaching and learning geography (Bednarz, 2003), and their translation to a futures pedagogy (Bateman, 2012; Hicks, 2012).

7. Conclusion and discussion

As shown in this article, the intention of working future-oriented that is present in the founding Vision Document for school geography, does not follow through to textbooks and the examinations. The intended, ideal curriculum differs fundamentally from the implemented curriculum; the futures perspective is diluted. As determining explanatory factors, we discovered the institutional constraints (lack of authority and power), missing clarity on the form (lack of prescriptiveness and consistency) and ambivalence (support and, at the same time, hesitation) among members of the community of geography educators.

These realities that hamper the futures education innovation must be seen in the context of mainstream thinking about societal change and the role of education, with a focus on preparing students for a competitive and uncertain labor market. And although The Netherlands is known for its constitutional freedom of education, with the current strict output testing, it

is not easy to use this curricular autonomy. The national examinations should work as a means, but function as a goal. At the national political level visionary clarity is missing as scoring in international educational rankings like TIMMS, PIRLS and PISA seems to be the leading ambition (Bronneman-Helmers, 2011; Nieveen and Kuiper, 2012; Nieveen & Kuiper, 2012). Dutch national educational documents mention the future in a rhetorical way: e.g. ‘Our future is in the hands of our education’ (KNAW, 2003). A lobby advocating a more supportive national policy could be a task for the formal representative of the Dutch geographers, the earlier-mentioned Royal Dutch Geographical Society (KNAG). An initiative worth mentioning is the recently started ‘Geo Future School’. Together with selected schools, relevant industries and institutions, KNAG started a breeding ground for futures-oriented learning. This initiative, subsidized by the EU since 2014, can work as an attractive example of what explicitly visionary based education looks like.

Luckily, futures education in geography does not depend on changes in national policy alone. Our study postulates that there is a strong relation between geography and futures education, which brings possibilities for the professional community itself to implement futures education in school geography. Since geography educators have an influence on the whole chain from vision, syllabus and textbook to the examinations, it is important to look at the conditions under which progress can be made.

More clarity should be given to Dutch geography educators about the function of this innovation. International literature on futures education offers a variety of answers to the importance of futures education. These should be studies and promoted among geographers.

Also, the form of this innovation should become clear. Does futures education require a new paradigm, or could it flourish if geographers would (be able to) practice what hitherto has mainly been paid lip service; making a shift from maintenance to innovative, enquiry-driven learning (Roberts, 2003)?

Already there are good materials available within the geography community. For example, Margaret Roberts’s ‘Geography through enquiry’ approach (Roberts, 2013) stimulates personal involvement, research, and discussion in the learning process. This kind of pedagogy is not exclusive but essential to futures education. Based on our observations, these kinds of activities are already being practiced in classrooms of progressive teachers. Their efforts should get more exposure.

Teachers might also have to unlearn conventional, teacher centered techniques and become more responsive with their high quality (geography) input, guidance and support. This allows students to learn through a more enquiry-driven approach, including knowledge, personal reflection, and dialogue or debate, towards meaningful outcomes, in terms of both content and personal purpose. As Debra Bateman describes, active group learning and teaching on futures education have brought positive outcomes (Bateman, 2012). Knowledge, personal reflection, and dialogue turned out to be essential. Given the complexity of the task, teacher education through scaffolding, building expertise, and practicing skills under guidance and support of an expert, might offer possibilities (van Velzen, 2013). Through such a ‘guided learning’ process, teachers can develop a (renewed) personal understanding of how geography knowledge and pedagogy can be enacted in futures oriented geography education.

Appendix A. Appendix A

studied materials not mentioned in references:

CVE, Examen VWO, tijdvak 1, 2010
 CVE, Examen VWO, tijdvak 2, 2010
 CVE, Examen VWO, tijdvak 2, 2011
 CVE, Examen VWO, tijdvak 1, 2012
 CVE, Examen VWO, tijdvak 2, 2012
 CVE, Examen VWO, tijdvak 1, 2013
 CVE, Examen VWO, tijdvak 2, 2013

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