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Teachers envisioning future geography education at their schools

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One of the challenges of a geography teacher education program is preparing teachers for their leading roles in keeping geography education relevant for the young people of today. It is important to allow teachers to think about geography education and the future and to foster their curriculum-making competences. In a master course at Fontys University of Applied Sciences, geography teachers are encouraged to develop an informed vision of geography education. One of their assignments is to write an essay – based on both literature and practical research – about “what geography education should look like at their schools five years in the future”. We analysed these essays to understand teachers’ ideal future images about geography education. For the analyses, we used two models of curriculum making. Most of the teachers express innovative ideas about classroom practice, how to stimulate student learning, and how to make geography lessons more interesting. They express responsibility for student learning. In addition to teachers’ promising ideas about learning activities, it is far more difficult for them to adopt a clear vision of geography education and to reason from this vision. Making balanced proposals for future geography education using the different elements of creating a curriculum (aims, content, activities and assessment) is a big challenge and deserves specific attention during the master course.

Keywords: future image; geography education; curriculum making; teacher education

1. Introduction and background

In this rapidly changing world, geography teachers must work hard to keep their subject both current and meaningful for young people and their future. Accordingly, one of the challenges of geography teacher education programs in higher education (HE) is how to prepare teachers (or future teachers) for their leading roles in truly maintaining the relevance of geography education to young people in a twenty-first century context (Béneker, 2013a). It seems very important to foster teachers’ curriculum-making competences and to help them develop a clear personal vision of the aims and strengths of geography education. Merely learning how to plan single lessons is insufficient to achieve meaningful geography education: it is necessary to engage in curriculum development outside the classroom and at the school level (Carl, 2005; Lambert & Balderstone, 2010). As Darling-Hammond et al. (2005, p. 176) state, “Teachers must rely on their own curricular vision and understanding of educational purposes and the study of curriculum and curriculum development should be part of teacher education”. Brooks (2013, p. 84) places even more emphasis on the role of HE institutions in this respect in cases in which a teacher’s work “is bound by other constraints, not least the preparation of students for high-stakes assessment and a heavy workload”. In this paper, we focus on the future relevance of geography education and how teachers can think and argue about it in their role as curriculum makers. This study analyses an assignment created by teachers in a master

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course-unit at a teacher education institute. The assignment is to write an informed essay about the ideal situation for geography education at the teachers' schools within a five-year time frame. The primary goal of analysing these assignments from a research perspective is to obtain insight into both teachers' (preferable) future images of geography education and the consistency of these images in relation to vision development and curriculum making. We hope that this study provides food for thought about geography teacher education programs.

1.1. The future relevance of geography education

Current debates about “education and the future” primarily focus on two major issues: education *for* the future and education *of* the future. The debate about “education *for* the future” raises the following question: Does modern education properly prepare young people to live and work in rapidly changing societies? This debate (in the Western world) is dominated by the idea that education should contribute to the so-called “twenty-first century skills”. These skills are more aptly regarded as competences that combine knowledge, skills, attitudes and behaviours to enable adaptation to the challenges of the “flexible” twenty-first century labour market (Binkley et al., 2012; Rotherham & Willingham, 2009; see www.21stcenturyskills.org). People should be able to adapt to changing situations and to develop an attitude of lifelong learning. Accordingly, the debate centres on what young people should learn (in the sense of knowledge, skills, etc.) and how to promote learning. For geography education, this raises questions about how to teach young people to think critically and creatively about geographical issues. The second debate focuses on “education *of* the future” and raises questions about the use of modern technology and the organisation of education. These discussions about teachers' information technology skills, digitised and virtual classrooms and gamification focus on how (or with what types of resources) young people should learn (see, for example, www.envisioning.io/education). For geography education, there is a drive to use Geospatial Technology to stimulate spatial and geospatial thinking (Muñiz Solari, Demirci & van der Schee, 2015). In addition to these two debates, there is a third way of looking at education and the future. For many years, Hicks (2012) has advocated “education *about* the future, or futures”, in which there is room to study and discuss alternative futures in education. By doing so, people learn to think about possible, probable and preferable futures and all of their potential implications. The primary argument for this approach is that it can enhance our “steering capacity” related to future developments (Pauw & Béneker, 2015). According to Roberts (2011, p. 245), thinking about the future is “particularly pertinent for those involved in geography education” because “many of the big issues of our time, about which we can make informed judgements and take action, have geographical dimensions”.

In this paper, we analyse geography teachers' thinking about the future. The teachers analysed the current situation related to geography education in their schools, envisioned a preferred future on a five-year time horizon and described the strategies needed to achieve that preferred future. We wondered whether and how teachers use ideas of (geography) education *for*, *of* and *about* the future in their description of a preferred geography-education situation. What is their view about the relevance of geography education in the near future? Moreover, teachers can start with a vision and an ideal picture and work backwards; alternatively, they can think about their options and opportunities, beginning with their challenges or problems and how to overcome them, and then engage in forecasting. The intention of the assignment (allowing teachers to think about the future) was to make them aware of their role as curriculum makers.

1.2. Curriculum making

If we review handbooks used in teacher education “curricula”, much has been written about the historical development of geography curriculum in relation to academic geography (Haubrich, 2006; Rinschede, 2007), the function of (a national) curriculum in schools (English, 2010; Rawling, 2006) and the process of curriculum development in geography departments. However, this paper focuses on the specific role of geography teachers as curriculum makers (Lambert & Morgan, 2010). Currently, the teacher as “curriculum maker” is an important issue in the British literature on geography education and teacher education. This “British” idea of curriculum making was taken to the “international” level, for example, at the IGU-CGE London symposium in 2011 at which “curriculum making” was the theme (Brooks, 2013). This idea of the teacher as a curriculum maker is a driving force of the Comenius project on GeoCapabilities, which aims at “enhancing the qualities of teachers’ ‘curriculum making’ in geography” (Stoltman, Lidstone & Kidman, 2015, p. 4; see www.geocapabilities.org). Biddulph (2013, p. 133) explains the British interest in teachers as curriculum makers as part of an attempt both to “encourage principled, localised curriculum thinking” and to give ownership of the curriculum to the geography teacher. Brooks (2013, p. 71) sees the promotion of the idea of curriculum making as an attempt “to articulate teachers’ role in developing and enacting a locally relevant but geographically robust curriculum”. Lambert and Morgan (2010) promote the role of teachers in curriculum making at the school level, at which teachers must perform “the in-between work of translating a curriculum plan, which may scope out several years’ work in geography (and is presumably driven by some broad aims or goals), into lesson sequences” (p. 50). Similar ideas, which characterise the teacher as a professional who designs larger sequences of lessons or year-long programmes, are discussed in, e.g., Germany (Blankertz, 1972; Meyer, 2005;) and the Netherlands (Nieveen et al., 2013; van den Akker, 2003). In the curriculum-making model of Lambert and Morgan (Figure 1), there are three important “sources” or “pillars” or “zones of influence” in this professional activity of curriculum making: the students, the subject and the teacher’s repertoire. All three components are resources for curriculum making. Young people are a resource

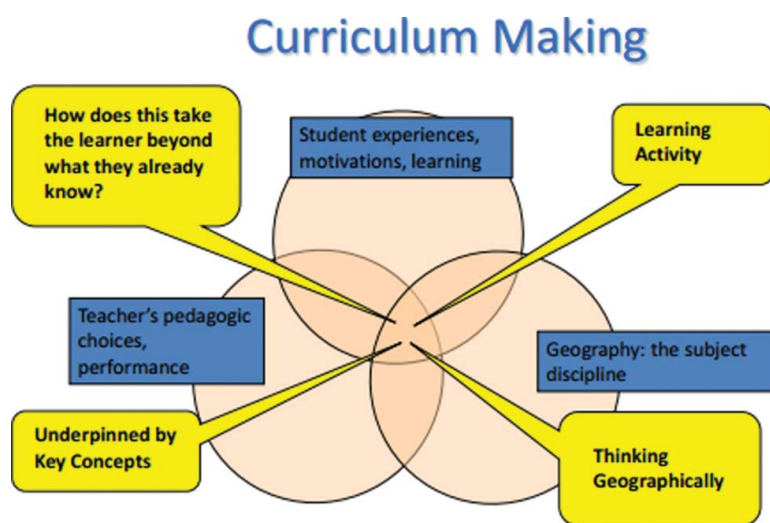


Figure 1. Curriculum making (Lambert & Morgan 2010, p. 50).

because they have their own experiences and daily life knowledge that can be used in class. The subject matter is a resource because of the significance of the discipline as a key resource. Finally, the teacher is a resource because of his strategies to motivate students to engage with the subject matter. Teachers need to maintain the balance among these zones of influence to avoid the risk of unproductive learning (i.e., learning that is exclusively child-centred), empty learning (i.e., learning that is exclusively pedagogically oriented) or excessively facts-based or academic teaching (i.e., learning that is exclusively discipline based).

The idea of school-based curriculum-making fits well with the activities that the geography teachers in the master course are asked to perform in thinking about the future. Will they think from the perspective of the student and how to best prepare the student for his or her future life and choices? Will teachers reason from the perspective of their subject and discipline and wonder what type of geography young people should learn and what the discipline has to offer? Will they draw from their pedagogical expertise, from their toolbox and from all of the opportunities offered by, for example, new hardware and software? Or (hopefully), will they be able to connect these three pillars in developing ideas about future geography education in their schools?

If we examine the process of curriculum making in greater detail (compared to the model of Lambert and Morgan), the work of Thijs and van den Akker (2009) is useful. They have designed a model, called the curricular spider web, which can be used at different levels of curriculum making and is especially useful when examining teachers' curriculum-making activities. The overall idea of the spider web in Figure 2 is that all of the elements are both linked and dependent on one another. Moreover, the web is flexible but vulnerable. One cannot pull a single thread too hard; otherwise, it either collapses or becomes out of balance. The starting point is a rationale or vision about the educational

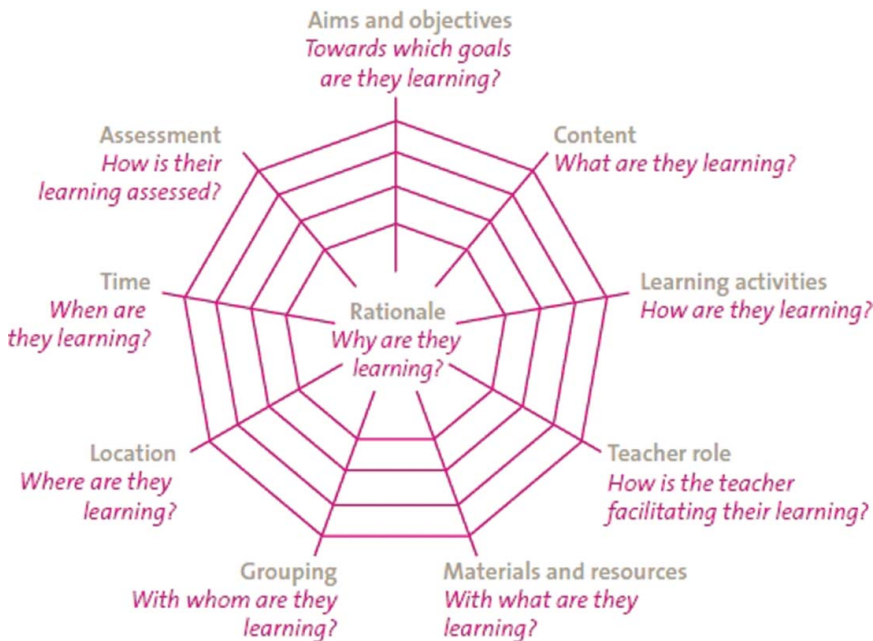


Figure 2. Curricular spider web (Thijs & van den Akker, 2009).

process and students' geography learning. The rationale is linked to all of the nine elements of curriculum making. There is some order or sequence (clockwise) in curriculum making, beginning with aims, selecting content, choosing learning activities and so on. The three pillars discussed by Lambert and Morgan (2010) can be recognised as follows:

- students: almost all of the questions are about the students. "They" are learning, and the teacher should have them in mind when "making (or designing) the curriculum".
- subject: especially with respect to the content and aims questions – and in relation to the other questions – choices must be made about what aspects of the geography discipline to select.
- the teacher's pedagogical knowledge: the questions asked, from learning activities to assessment, require his or her pedagogical expertise.

The curriculum spider web is a useful instrument to analyse teachers' curriculum-making qualities because we can study the emphasis that they place on the different elements of curriculum making and the rationale from which they work, together with how these are linked to and work through the different elements of curriculum making. Moreover, we might use the model to recognise teachers' ideas about geography education and the future, as mentioned above, such as in teachers' rationales (learning *for* the future), in content (learning *about* the future) and in resources (learning *of* the future).

2. Research aims, context and design

This paper discusses the results of an analysis of an essay in which geography teachers envision and describe geography education at their school five years in the future. The research has some characteristics of practitioners' research (Campbell, 2007) because two authors designed the assignment in their role as geography teacher educators. Moreover, this analysis is used to critically evaluate the authors' own teaching practices and to determine whether any other emphasis is needed for the teachers to develop their curriculum-making competences. However, it is not action research or educational design research because we did not conduct a planned intervention (Kemnis, 2007; Plomp & Nieveen, 2013). After having worked with this assignment in the course-unit for several years, the teachers thought that the assignment could be a rich resource to provide insight into how teachers think and reason about geography education in their schools and how to improve it. By analysing the essays, we attempted to obtain insight about "how these teachers are able to think of a preferred future for geography education in their schools and how they express themselves (or fill in their role) as 'curriculum makers'".

2.1. Description of the master course, students and assignment

The assignment is part of a master course-unit in a three-year, part-time master course to become a qualified teacher of geography (at the upper secondary level) at Fontys University of Applied Sciences. The students are all qualified geography teachers (at the lower secondary level), and all of them teach secondary-school geography to students of up to 16 years of age. However, the teachers' level of work experience varies from 1 to 20 years.

The master course offers deeper learning about both the subject and pedagogy. Following the course, the graduates are supposed to prepare students for their A-levels. Moreover, in the near future, these teachers must be able to work as geography

department heads and to provide guidance related to future developments in geography education at their schools. To do so, it is crucial that they develop their own visions of the broader aims and content of geography education.

During the first term of the first year of the teachers' study, they participate in an eight-week course unit titled Geography for Education. The primary goal of this unit is to have the teachers develop a vision of the aims and content of geography education and reflect on their possible role as department head. The final assignment of the course is to write an essay in which the teachers envision their ideal geography-education situation in their schools five years in the future. The assignment is based on a specific approach to curriculum development. According to this approach, curriculum making is regarded as an "artistic" activity in which the starting point is the teacher's vision and experience related to identifying the important elements of education (Thijs & van den Akker, 2009). To write the essay, the teachers must use both literature and the outcomes of three preparatory assignments: to compare international curricula, to evaluate their schools' geography-education situations and to obtain their pupils' opinions about geography education¹.

Based on the results of the three preparatory assignments, the teachers are required to write an essay about the state of geography education in their schools from a future perspective; the essays should express a clear view about any changes and achievements that have taken place. The assignment is an individual project and is written at home. There is no list of obligatory themes for the teachers to cover (for example, the teachers are *not* directed to discuss the elements of the curricular spider web (Figure 2)). However, there are some formal requirements: the essay should be 2,400 words long and should contain a brief introduction text, a title and a clear structure. The essay is targeted at colleagues and fellow teachers and should be publishable in a professional journal.

2.2. Methodology

Between 2010 and 2014, 142 essays were written by teachers as their final assignment. For this research, the essays were placed in an alphabetical order for each year and every fourth essay was chosen for analysis. After reading the essays, seven were removed because they had been rejected (i.e., they did not fully meet the requirements described in the assignment). Ultimately, 31 papers were selected for this study.

Content analysis was applied to examine the essays and to determine the presence of certain concepts within the text. To analyse the essays, a predefined set of categories derived from the curricular spider web (Figure 2) was used. No other categories were included in the analyses except for "issue", a category that covers not only the current situation of geography education at the teachers' school but also the concerns and problems identified in their essays. To identify the issues, all the concerns and problems mentioned in the essays were listed. Subsequently, the issues were grouped into categories. After the grouping, the following categories were identified: the motivation of the students to learn geography, the decreasing number of students choosing geography as a subject and miscellaneous. A coding frame based on the curricular spider web (Figure 3) was used to organise the data systematically and to identify findings. The texts of the 31 essays were coded for existence, not for frequency. For example, if computer devices, such as laptops and iPads were mentioned three times in a single article, the subject was only coded once in the category resources. On the coding sheet, short descriptions (or summaries) were added to the cells. For example, the following issues were raised: "decreasing number of students choose geography at upper level" and (for learning activities) "introduce

Student/ article	Issue	Rationale	Aims and objectives	Content	Learning activities	Teacher role	Materials and resources	Grouping	Location	Time	Assessment
1											
2											
3											
Etc.											

Figure 3. Coding frame based on the elements of the curricular spider web.

fieldwork”. In listing these summaries, we followed closely the phrasing used by the teachers.

The coding was performed by two authors in consultation with one another. After five essays, the coding was discussed to check the consistency of our use of the curricular spider web. After 15 essays, the results in the coding sheet were discussed and the overall picture started to become clear. After another 15 essays, we concluded that adding more assignments would not add new perspectives. Accordingly, the results are based on the analyses of the 31 preselected essays.

In the following section, the findings are described in the sequence of the coding frame (Figure 3), starting with the issues and subsequently the elements of the curricular spider web. Afterwards, we look into detail at the reasoning of a few teachers. We finish the results part by looking at the futures discourse. What do we recognise in their essays: teaching of, for or about the future?

3. Results

Twenty-nine of the 31 teachers begin their essay with their concerns about geography education at their schools. These concerns are easy to recognise in the text, and many of them are similar. Fifteen teachers mention that their concern is the decreasing number of students who choose geography as optional for upper secondary education. Similar to (earlier) developments in England (Rawling, 2000), the declining status of geography in secondary schools is currently an issue. Since 2007, the status of geography in the exam programme has changed and fewer students have chosen to study the subject. The average number of students who choose geography as a subject for their final exams dropped from 50% in 2006 to 35% in 2014 (Albers, 2006, 2007, 2008, 2009; Albers & Erens 2010, 2011, 2012, 2013, 2014). However, the differences among schools are large. In some schools, geography is endangered because schools stop offering subjects chosen by only a few students. In schools that have a dynamic team of teachers, geography is popular. In addition, 10 of the essays mention students’ problems with the subject: that they regard it as boring, not relevant or not attractive. The teachers connect the first and second points: students do not choose the subject because they do not see its relevance for further study and because they do not like geography classes. Four teachers identify either the lack of a vision or the hope for a better vision of geography education in their school as an urgent matter.

The rationale from which the teachers are working is much harder to find in the essays. One really must read the text carefully to find statements about that issue, which we could identify in 19 of the 31 essays. Thirteen of these 19 essays mention citizenship as an important overall rationale. Three teachers connect the rationale to their school’s identity and vision: these schools are Christian and have a guiding principle of “stewardship and responsibility”. Seven teachers regard simulating students’ geographical awareness as an overall rationale, which they sometimes directly link to those students becoming critical and independently thinking citizens. Three mention preparation for

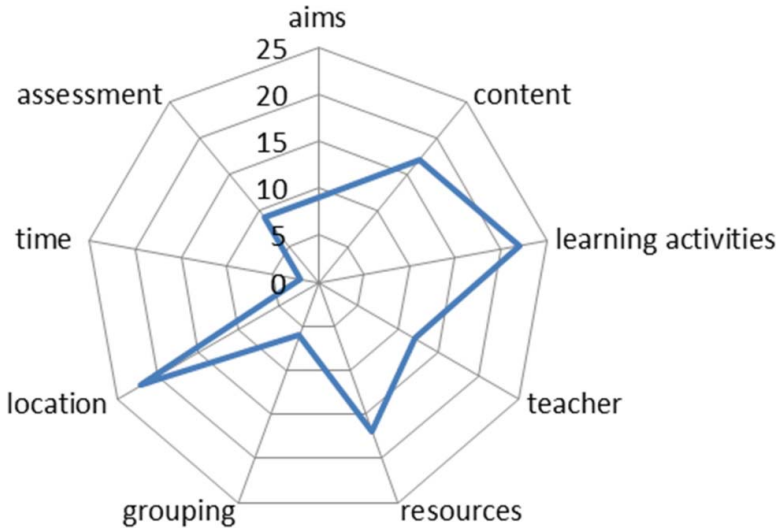


Figure 4. Number of teachers describing an element of the curricular spider web $N = 31$.

further studies, professions or passing exams. Two teachers think that increasing enthusiasm should be the overall rationale. When we relate these rationales to the three goals of education – preparation for citizenship, preparation for further study and personal development (Onderwijsraad, 2014 – or in Biesta’s terminology “*socialisation, qualification, subjectification*” Biesta, 2010, 2011) – one can assert that the goal of citizenship or socialisation is most important to the teachers (13 of 31). However, 12 of the 31 teachers do not express a particular rationale and seem to work without a broader vision of geography education.

In Figure 4, we can observe the curriculum elements discussed in the teachers’ essays. In 22 essays, teachers discuss learning activities and the location of those activities. Resources and content are mentioned by 17 teachers. Much less-often mentioned are aims, assessment, groupings and time. Teachers clearly wish to change geography teaching in their schools to stimulate more active learning and to make their classes more enquiry-based, which would include introducing fieldwork and excursions outside the school. In the teachers’ opinion, fieldwork should motivate students, show them the greater relevance of geography and help them connect theory and practice. Some of the teachers observe that their role as a teacher will change from explaining phenomena to introducing questions and encouraging students to find answers. An often-mentioned element is resources, dominated by information technology but also including hardware and working with devices (including software): all of the teachers wish to use GIS in a more professional manner.

The 17 teachers who address the element of “content” or the pillar of the discipline indirectly formulate criteria for content selection. The relevance of the content is related to news and current events, to what students can learn about their local environment, to the bridge function of the subject in relation to other subjects and to the connection between human and physical geography. Some of the teachers refer to the curriculum in the syllabus for the central national examinations. They refer to content as “something set or fixed” that they cannot influence or adapt to their own situations.

The relative absence of “assessment” in the essays is striking, especially because of the current discussions about the increasing emphasis on central examinations, including

stricter rules about Dutch, English and mathematics, together with the fact that the grades for central national exams and school exams are not allowed to differ greatly from one another (Béneker, 2013b; Pauw & Béneker, 2015). We think that there might be a relationship between the teachers' feeling of ownership of the different elements of curriculum making and the degree to which they write about these elements. With respect to aims and assessment for upper secondary education (which are established by national syllabi and exams), the teachers write less and might feel less ownership, whereas they do feel ownership and freedom related to "learning activities". It is interesting that the learning activities the teachers propose do not necessarily lead to good results on the central tests because those tests are characterised by short-answer questions about (factual) content with some information skills tested: the tests do not evaluate critical thinking, opinion making or enquiry-based activities (Pauw & Béneker, 2015). However, two of the teachers do formulate their own visions about a new type of national curriculum that focuses more closely on the learning process and less on its content, together with the abolition of a central national exam.

In what way do these essays express the teachers' curriculum-making competences? It is useful to examine three teachers in detail because then we can observe the links between the elements and their stories that underlie their preferred futures. In the essays, we observe different examples of curriculum-making competences (on paper). Teachers A and B are examples because more teachers engage in the same type of reasoning (A: solving a problem; B: not connecting rationale and elements). Teacher C can be regarded as the most complete example of a teacher engaged in curriculum making. However, the three teachers are unique "cases": it was not possible to distinguish clear categories in the type of curriculum making because all 31 teachers are different from one another.

Teacher A provides an example of a teacher who is missing a clear rationale. However, that teacher identifies a problem: students do not choose the subject, and it is regarded as neither relevant nor interesting. Teacher A would like to improve this situation by introducing active learning activities, such as fieldwork, conducting classroom experiments and engaging in role playing activities. Such activities should be facilitated in the school context. On the one hand, this argument is both clear and coherent; on the other hand, we have no idea at all of what students will be learning and why. Accordingly, the "how" of geography education is where curriculum making is taking place.

Teacher A

Curriculum component	
0. (Issue)	Number of students choosing geography, subject perceived as irrelevant and boring.
1. Rationale	—
2. Aims and objectives	Increase students' enthusiasm for geography.
3. Content	—
4. Learning activities	Fieldwork and excursions, classroom experiments, role-playing exercises.
5. Teacher's role	—
6. Materials and resources	Computers in classroom, facilities for "experiments", atlases, maps, globes, GIS.
7. Grouping	—
8. Location	Geography classroom in a new building with both inside and outside facilities (fieldwork).
9. Time	—
10. Assessment	—

Teacher B does not address a problem or issue but formulates the rationale as a contribution to citizenship development. Teacher B's essay mentioned aims, content, learning activities and grouping. However, Teacher B provides an example of elements of curriculum making that are neither connected nor fed by the rationale. The connection among critical citizenship, passing examinations and varying teaching activities is unclear. Teacher B provides an example in which coherent curriculum making is absent. There are 13 essays that present citizenship as the rationale. However, only three of these essays clarify what citizenship really means and how it influences ideas about teaching.

Teacher B

Curriculum component	
0. (Issue)	–
1. Rationale	Citizenship: development of young people into critical, independent citizens. Developing knowledge and skills so that students can form an opinion regarding important issues in Europe, Holland and their own environment.
2. Aims and objectives	Good study results and passing examinations.
3. Content	Not specified, but important to assess themes/subjects in a logical order with the curriculum as guide. Regularly mentioning the various possibilities for careers in geography.
4. Learning activities	Various forms/activities will be used, including frontal teaching, making notes, independent student work on assignments from their books, doing research.
5. Teacher's role	–
6. Materials and resources	–
7. Grouping	Both group and independent work are part of the plan.
8. Location	–
9. Time	–
10. Assessment	–

Teacher C observes a “teaching to the test” trend at school and decides to provide some counterweight to that trend. Happily, the results in geography are good and do not provide an occasion for increased inspection, as is the case with other subjects in this school. This teacher's essay demonstrates curriculum making from a rationale that relates to aims, content selection, learning activities and even the use of an electronic learning environment. From the perspective of the curriculum spider web, Teacher C provides an example of a coherent exercise.

Teacher C

Curriculum component	
0. (Issue)	Increased emphasis on results (inspection).
1. Rationale	Enlarge student's geographical image of the world; increase respect for other people.
2. Aims and objectives	Understand world news, pass examination, increase openness to other people.
3. Content	Case studies on current events, geographical concepts, knowledge and skills (from national curriculum) related to the case studies.

(continued)

4. Learning activities	Short instructions, assignments, fieldwork.
5. Teacher's role	Guiding students in (group) work.
6. Materials and resources	Electronic learning environment (sources for studying case studies), tablets (iPads).
7. Grouping	Small groups.
8. Location	Classroom and outside (fieldwork in cooperation with the local community).
9. Time	Two concentrated hours to work on the case studies.
10. Assessment	—

After having identified some characteristics of the teachers' curriculum making, we can now explore how teachers write about the future and their geography education, which will be illustrated by some quotes from teachers. Every quote is from a different essay, and there are no quotes from Teachers A, B and C. Geography education *for* the future is implicitly and explicitly referenced in the essays. The most common rationale is preparing students for their role as citizens in the society of the future: critical thinking, responsibility for the wider society and the environment, and respect for other people are important.

The school subject geography contributes to the raising of active citizens. Citizens live in a world that is more and more of a village. Geography is the subject that allows students to learn more about the world outside the Netherlands and outside Europe. (...) We like students to develop a global perspective.

Geography matters! With the knowledge of the earth and important processes you are aware of your influence and able to solve problems.

It is harder to find more elaboration of the citizenship issue in the design of geography education. The teachers do not go much further than providing students with the relevant geographical knowledge that enables an understanding of both local and global news. No political dimension, stakeholders, groups, views and visions, value education or argumentation is mentioned. Another aspect of teaching for the future relates to the personal future of the students. Teachers attempt to make the subject more relevant to students in the sense of personal choices that must be made in relation to further education and professions. Teachers believe that it is important for students to be aware of the personal relevance of geographical knowledge and skills.

A sustainability project in geography education has led to enthusiasm among students. They went to the school management, which led to striving for a sustainable school, for example, with respect to school policy on food and waste.

We bring our students in contact with the world outside the school building by organising projects and fieldwork activities.

In discussing their choices for the design of geography education, teachers write about relating theory to practice through fieldwork, excursions and bringing professionals into the schools to talk about their work. There are two exceptions in which teachers write about the future *in* geography education: one of the teachers believes that the curriculum and content should address sustainability issues and that students should be explicitly encouraged to think about the future. Another teacher would like to select themes and regions based on the future relevance of those topics.

Geography education *of* the future is recognisable in one element: materials and resources. Sometimes this is because the school management is stimulating or even forcing teachers to familiarise themselves with modern technology; often, it is because teachers think they must or would like to do so.

The students live in a digital world. At school, however, time occasionally seems to stand still. Why don't we use the students' knowledge? We decided to make a considerable investment in the use of information technology.

Modern education makes use of digital school boards. (...) The use of tablets was introduced in the whole school.

What is striking about the teachers' views is that the use of information technology (IT) is seldom related to the other elements of the curricular spider web. IT seems to be something that is important and that must be used, without any discussion about exactly why and how geography education can benefit from it. Occasionally, we see an example of a teacher who has thought about a useful introduction of GIS, and one teacher wrote an entire essay about the subject of online digital education.

4. Conclusions

First, we must be very careful about arriving at any conclusions because analysing an existing assignment in a course-unit context is not the same as using an "objective" measuring instrument. The teachers' essays are influenced by the design of their course-units, the ideas of the course-unit teachers, the literature, etc. Without making any generalisations, we can assert that the teachers were all able to describe their preferred futures and that all of them had ideas about how to improve geography education at their schools. The teachers had innovative ideas about classroom practice, how to stimulate student learning, and how to make geography classes more interesting. They feel responsible for student learning. The teachers' essays show an awareness of the context in which they teach, sometimes related to the national context of examinations and sometimes related to their schools' preconditions. We know that many of the teachers used this assignment to discuss and plan improvements with their colleagues; however, the written assignment of course provides no indication about whether the teachers have the ability to change or act in accordance with their desires.

Our conclusion about curriculum making from analysing the essays is that these teachers do not have clear, inspiring visions about geography education. [Figure 1](#) indicates that the teachers need fundamental ideas about the pedagogy of geography and the pedagogical choices that they would like to make as teachers. They think about their students in the sense that geography education should be relevant and interesting to them; however, there is no sign that the teachers drew from the students' backgrounds, knowledge or geographies. The issue of thinking from a disciplinary perspective arises when teachers are aware that they must make choices—for example, which chapters of the textbook to use, how to select content and how to make that content relevant. However, the teachers exhibit only limited thinking from a disciplinary and content perspective.

This future-thinking exercise indicates that the studied teachers are influenced by a dominant discourse about the "education *of* the future" that uncritically views all information technologies as both necessary and desirable. There is little elaboration on the issue of what learning for and about the future really implies for geography teaching; indeed, the issue often receives only minimal attention. We must remember, however, that these

teachers have only just begun their master's program and have not previously had much time to consider and read about these issues.

This study of 31 essays discussing a future perspective on geography education demonstrates that it is important for student teachers to become aware of their role as curriculum designers. It is important for student teachers to realise that curriculum making and lesson planning are not just technical activities but instead are an intellectual activity that begins with thinking about the geographical knowledge taught to secondary-school students (Brooks, 2006). The rationale of teaching and learning geography should not only be the starting point but also influence the other curricular elements. The findings of this study can be used to improve the existing course-unit. In the new course-unit, the curricular spider web will be used as a framework for the following reasons:

- to cover all aspects of curriculum and lesson planning and to discuss the importance of their various elements;
- to focus on the rationale as a starting point for designing the geography curriculum and
- to identify curriculum making and lesson planning as a complex activity because all of the curricular elements are intertwined.

Writing essays in which geography teachers envision the future of geography education seems to be an effective way to contribute to the development of a critically reflective practice. Together with keeping a diary or journal during their internships, writing an essay from a future perspective renders invisible teaching visible. It provides an opportunity for a dialogue with oneself and with colleagues about curriculum making and lesson planning: "such dialogue encourages taken-for-granted assumptions and practices to be questioned, and for alternative approaches to classroom practice to be tried out and debated" (King, 2010, p. 44). It would be interesting to learn how these teachers developed their vision and curriculum-making competences during the master course because this project was assigned during the first course-unit of a three-year program. Moreover, it would be interesting to broaden the research to more experienced teachers. We believe that the two models of curriculum making are useful tools to analyse teachers' curriculum-making competences.

One of the pitfalls for teachers is that although they are ambitious enough to contribute to their schools' geography curricula, they are simultaneously confronted not only with a considerable number of lessons to teach but also with increasing pressure for accountability, both of which represent obstacles to realising a teacher- and school-based curriculum. It is therefore important to provide opportunities outside the master's course – i.e., in school geography departments – to discuss and evaluate new ideas in geography and geography teaching (Lambert, 2010).

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Note

1. In the first preparatory assignment, students must compare several current international curricula. The aim of this comparison is to broaden the students' horizons related to geography education and to understand the specific *what* and *why* of geography education in neighbouring

countries. The second preparatory assignment consists of evaluating the current geography-education situation at the student teachers' schools. A checklist for school geography departments (Dawson, Lodge, & Roberts, 2004) containing several questions is used as an instrument to stimulate discussion among colleagues. The checklist includes questions about the content of the geography curriculum, the teaching and learning experience, enhancing the geography experience, promoting and marketing geography, geography teachers' professional development and students as consumers of geography. Subsequently, the outcomes of the discussion had to be prioritised: three or four priorities had to be chosen and achievable goals for the forthcoming years had to be formulated.

The third preparatory assignment is a small-scale survey (Dawson et al., 2004) to obtain an impression of secondary-school students' opinions of geography. In one or two classes, a questionnaire is presented to the students. Questions are asked about the difficulty of geography as a subject and whether the students think geography is interesting.

References

- Albers, R. (2006). *Verslag van de examencampagne 2006 Voortgezet onderwijs* [Report on Central Examinations 2006 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R. (2007). *Verslag van de examencampagne 2007 Voortgezet onderwijs* [Report on Central Examinations 2007 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R. (2008). *Verslag van de examencampagne 2008 Voortgezet onderwijs* [Report on Central Examinations 2008 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R. (2009). *Verslag van de examencampagne 2009 Voortgezet onderwijs* [Report on Central Examinations 2009 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R., & Erens, B. (2010). *Verslag van de examencampagne 2010 Voortgezet onderwijs* [Report on Central Examinations 2010 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R., & Erens, B. (2011). *Verslag van de examencampagne 2011 Voortgezet onderwijs* [Report on Central Examinations 2011 Secondary Education]. Arnhem: Cito. Retrieved February 3, 2015, from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R., & Erens, B. (2012). *Verslag van de examencampagne 2012 Voortgezet onderwijs* [Report on Central Examinations 2012 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R., & Erens, B. (2013). *Verslag van de examencampagne 2013 Voortgezet onderwijs* [Report on Central Examinations 2013 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Albers, R., & Erens, B. (2014). *Verslag van de examencampagne 2013 Voortgezet onderwijs* [Report on Central Examinations 2013 Secondary Education]. Arnhem: Cito. Retrieved from http://www.cito.nl/onderwijs/voortgezet%20onderwijs/centrale_examens/examenverslagen/oude_verslagen
- Béneker, T. (2013a). Aardrijkskunde vecht voor positie [Geography education fighting for its status]. *Geografie*, 6, 58–64.
- Béneker, T. (2013b). *Toekomstgericht onderwijs in de gammavakken* [Future oriented education in "social" school subjects]. Tilburg: Fontys lerarenopleiding. Retrieved from file:///C:/Users/Tine/Downloads/Lectorale%20Rede%20Tine%20Beneker%20(3).pdf
- Biddulph, M. (2013). Where is the curriculum created? In D. Lambert, & M. Jones, (Eds.), *Debates in geography education* (pp. 129–142). London: Routledge.
- Biesta, G. (2010). *Good education in an age of measurement: Ethics, politics, democracy*. Boulder, CA: Paradigm Publishers.

- Biesta, G. (2011). Het beeld van de leraar: Over onderwijs en virtuositeit in onderwijs en onderwijzen [The image of the teacher: about education and virtuosity in education and teaching]. *Tijdschrift voor Lerarenopleiders*, 32, 4–11.
- Binkley, M., Erstad, O., Herman, J., Raizen, S., Ripley, M., Miller-Ricci, M., & Rumble, M. (2012). Defining twenty-first century skills. In P. Griffin, B. McGaw, & E. Care (Eds.), *Assessment and teaching of 21st century skills* (pp. 17–66). Dordrecht: Springer.
- Blankertz, H. (1972). *Theorien und Modelle der Didaktik* [Theories and models of teaching]. München: Juventa.
- Brooks, C. (2006). Geography teachers and making the school geography curriculum. *Geography*, 91, 75–83.
- Brooks, C. (2013). Making the geography curriculum: Reflections on the IGU-CGE London Symposium. *International Research in Geographical and Environmental Education*, 22, 71–88.
- Campbell, A. (2007). *Practitioner research*. London: TLRP. Retrieved from <http://www.tlrp.org/capacity/rm/wt/campbell>.
- Carl, A. (2005). The “voice of the teacher” in curriculum development: A voice crying in the wilderness? *South African Journal of Education*, 25, 223–228.
- Darling-Hammond, L., Banks, J., Zumwalt, K., Gomez, L., Gamoran Sherin, M., Griesdorn, J., & Finn, L. (2005). Educational goals and purposes: Developing a curricular vision for teaching. In L. Darling-Hammond, & J. Bransford, (Eds.), *Preparing teachers for a changing world* (pp. 169–200). San Francisco, CA: Jossey-Bass.
- Dawson, G., Lodge, R., & Roberts, D. (2004). “Enhancing students” experience of geography. *Teaching Geography*, 29, 84–89.
- English, F. W. (2010). *Deciding what to teach and test Developing, aligning, and leading the curriculum*. Thousand Oaks, CA: Sage.
- Haubrich, H. (2006). *Geographie unterrichten lernen: die neue Didaktik der Geographie konkret* [Learn to teach geography: the new pedagogy of geography explained]. München: Oldenbourg Schulbuchverlag GmbH.
- Hicks, D. (2012). The future only arrives when things look dangerous: Reflections on futures education in the UK. *Futures*, 44, 4–13.
- Kemmis, S. (2007). Action research. In M. Hammersley (Ed.), *Educational research and evidence-based practice* (pp. 167–180). London: Sage.
- King, S. (2010). Reflecting critically on practice. In C. Brooks (Ed.), *Studying PGCE geography at M level* (pp. 36–49). Oxon: Routledge.
- Lambert, D. (2010). On being a professional teacher. In C. Brooks (Ed.), *Studying PGCE geography at M level* (pp. 9–22). Oxon: Routledge.
- Lambert, D., & Balderstone, D. (2010). *Learning to teach geography in the secondary school*. London: Routledge.
- Lambert, D., & Morgan, J. (2010). *Teaching geography 11-18 – a conceptual approach*. Maidenhead: Open University Press.
- Meyer, H. (2005). *Was ist guter Unterricht* [What are the characteristics of good lessons?]. Berlin: Cornelsen Scriptor.
- Muñiz Solari, O., Demirci, A., & van der Schee, J. (2015). *Geospatial technologies and geography education in a changing world. review publication on geospatial practices and lesson learned*. Tokyo, Japan: Springer.
- Nieveen, N., van der Hoeven, M., ten Voorde, M., Koopmans, A., & van Lanschot Hubrecht, V. (2013). *Docent als ontwerper: Raamwerk voor doordenking ontwerptaken*. [Teacher as designer] Enschede: SLO. Retrieved from <http://www.ecent.nl/servlet/supportBinaryFiles?referenceId=2&supportId=2701>
- Onderwijsraad. (2014). *Een eigentijds curriculum* [A nowadays curriculum]. Den Haag: Onderwijsraad.
- Plomp, T., & Nieveen, N. (2013). *Educational design research part A: An introduction*. Enschede: SLO.
- Pauw, I., & Béneker, T. (2015). A Futures Perspective in Dutch Geography Education. *Futures*, 66, 96–106.
- Rawling, E. (2000). National Curriculum geography: New opportunities for curriculum development. In Kent, A. (Ed.), *Reflective practice in geography teaching* (pp. 99–112). London: Paul Chapman Publishing Ltd.
- Rawling, E. (2006). Changing the subject – what’s it got to do with me? In Balderstone, D. (Ed.), *Secondary geography handbook* (pp. 82–87). Sheffield: Geographical Association.

- Rinschede, G. (2007). *Geographiedidactik*. Paderborn: Verlag Ferdinand Schöningh GmbH & Co.
- Roberts, M. (2011). Conclusion. In G. Butt (Ed.), *Geography, education and the future* (pp. 244–254). London: Continuum International Publishing Group.
- Rotherham, A. J. & Willingham, D. (2009). 21st century skills: The challenges ahead. *Education Leadership*, 67, 16–21.
- Stoltman, J., Lidstone, J., & Kidman, G. (2015). Powerful knowledge in geography: IRGEE editors interview Professor David Lambert, London Institute of Education, October 2014. *International Research in Geographical and Environmental Education*, 24, 1–5.
- Thijs, A., & van de Akker, J. (2009). Curriculum in development. Enschede: SLO. Retrieved from <http://www.slo.nl/downloads/2009/curriculum-in-development.pdf>/ www.geocapabilities.org, www.21stcenturyskills.org, www.envisioning.io/education.
- van den Akker, J. (2003). Curriculum perspectives: An introduction. In J. van den Akker, W. Kuiper, & U. Hameyer (Eds.), *Curriculum landscapes and trends* (pp. 1–10). Dordrecht: Kluwer.