

Inaugural lecture

Powerful knowledge in geography education

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Rector magnificus, ladies and gentlemen,

Last month, Bas Heijne¹ opened the fake-news-week with his essay entitled ‘Truth is not a matter of perspective’ (*De waarheid is geen kwestie van perspectief*). The post-truth era is commonly associated with Trump, but Heijne is saying that even the director of the Dutch national broadcasting service NPO supports economising on news programmes, arguing that we are informed at least as well by drama series such as *House of Cards*.

According to Heijne, one of the major underlying problems is that we are influenced so easily nowadays, and that the colossal amount of information and number of issues we are bombarded with is causing us to rely on interpretations that are easy to digest. He stresses that we need to cultivate an awareness of how we are being influenced so that we are less susceptible to false assumptions. And to develop such an awareness, Heijne continues, you need reliable journalism.

Today, I would like to add ‘reliable education’ to the requirements. I believe that reliable education is based on knowledge, and that you have to enable pupils and students to see and discover how that knowledge comes about, and how it is developed and used but also misused in various ways. For instance, you can learn to think critically from a geographical perspective and armed with geographical knowledge about migration issues, climate change, or Brexit and the future of the EU.

I am therefore going to speak about the importance of a knowledge-based curriculum. This may sound a bit strange: shouldn’t knowledge be self-evident in education? But if you are closely following the debate in the field of education, you will know that attention is being directed mainly at 21st-century skills, cross-curricular skills, digital skills and language and maths. These are important, but not enough. With the teacher in the role of coach rather than expert, we risk throwing away the baby (i.e. the knowledge) with the bath water.

In thinking on education, discipline-based scientific knowledge has been out of fashion for some time – not only in primary and secondary education, but also in teacher training courses and university Bachelor’s programmes. However, the role of knowledge in education deserves and is also slowly receiving more attention again – here in the Netherlands, in the debate on the objectives of education at all levels. In this respect, I am opting for an approach originating from educational sociology. Educational sociology looks at the function of education in society; for example, how education contributes to social equality, or conversely, perpetuates inequality.

Michael Young (from the UK), Johan Muller (from South Africa) and Leesa Wheelahan (from Australia) represent a new trend in educational sociology: social realism². Inspired by the work of Basil Bernstein and Emile Durkheim, they focus on school, university and

vocational education. Over the past decade, they have developed new theoretical insights regarding knowledge, curricula, school subjects and disciplines.

The point of departure comes from Basil Bernstein's³ idea that access to abstract, theoretical knowledge is a precondition for an effective democracy. With abstract knowledge, you can visualise the 'unthinkable and not yet thought of' and imagine alternative futures. In our times, such knowledge is often absent from the core curriculum, having been replaced by context-specific, practically oriented skills education⁴.

I would now like to elucidate on the social realism approach. I will begin by showing how it is a reaction to general developments in science and education, before delving more deeply into the central concept of powerful knowledge. I will then cast light on the role of teachers and lecturers in a knowledge-based curriculum. I will illustrate these three subjects – curricula, powerful knowledge and curricular leadership – with geography teaching and geographical research. I will then finish by placing the Geography & Education chair in this context.

I Social realism based on three curricula

Social realism is a response to social constructivism, which currently dominates thinking about education, and which was itself a response to positivism. These three schools of philosophy have different visions regarding knowledge. Young & Muller⁵ interpret this in terms of three types of educational curricula, which they refer to as Future 1, Future 2 and Future 3. The numbering is consecutive, but they can also exist side by side; we can call the curricula traditional, modern and emerging. 'Future' indicates that all three are realistic options for the future.

For each of these three curricula, I will indicate what the philosophical basis is, for whom the curriculum is meant, what is central to the curriculum, who decides that and the resulting pedagogic considerations (Figure 1).

Future 1 – traditional⁶

Future 1 is based on positivism. Positivism regards knowledge as 'absolute and a (natural) given'. The traditional curriculum originates in an elitist educational system in which cultural knowledge is passed on to a select group. This is 'knowledge for knowledge's sake', with a lot of factual knowledge in an often static and conservative curriculum, with little to no engagement. In such a curriculum, teaching consists of literal transfer by the teacher or lecturer and is aimed at reproduction.

In the previous century, this curriculum had to adjust to the emancipation of large population groups demanding accessible education. Furthermore, the curriculum needed

Figure 1: Profile of three curricula

	Traditional (Future 1)	Modern (Future 2)	Emerging (Future 3)
Philosophical perspective?	<ul style="list-style-type: none"> - Positivism - Knowledge = absolute 	<ul style="list-style-type: none"> - Constructivism - Knowledge = social construction 	<ul style="list-style-type: none"> - Social realism - Knowledge = reality & construct
For whom?	<ul style="list-style-type: none"> - Conservative - Limited group, elite 	<ul style="list-style-type: none"> - Progressive - In theory all, but selective 	<ul style="list-style-type: none"> - Progressive - All
What is central?	<ul style="list-style-type: none"> - Established professional knowledge - Canon 	<ul style="list-style-type: none"> - Skills - Competences - Learning to learn 	<ul style="list-style-type: none"> - Integration of knowledge and skills
Who decides?	<ul style="list-style-type: none"> - Experts in the field 	<ul style="list-style-type: none"> - Teacher, pupil 	<ul style="list-style-type: none"> - Cooperation, co-creation
How?	<ul style="list-style-type: none"> - Transfer - Little engagement 	<ul style="list-style-type: none"> - Activating education – Methods central - Engagement with teaching activity 	<ul style="list-style-type: none"> - Didactic choices ensue from the ‘what’ and ‘why’ - Engagement with subject-related thinking

to be reorganised following the explosion of knowledge about the physical and social worlds. This led to academic profiles and stripped down versions of the elite knowledge for the masses, for example, in the form of vocationally oriented education. It eventually became clear that young people struggle greatly with this type of knowledge transfer if their home backgrounds have not equipped them with the necessary tools, and the content remains meaningless.

How do we recognise this traditional curriculum type in geography teaching?

The traditional curriculum is found in geography teaching from the 19th and early 20th centuries, which heavily emphasised a regional knowledge. In a television programme broadcast in my youth called ‘De Stratemakeropzeeshow’, Joost Prinsen who apart from Eric Engerd also played a geography teacher, quizzed Aart Staartjes and Wieteke van Dort – two students who kept having to repeat years at school – on the soil conditions of South-East Groningen in a perfect parody of meaningless and even alienating teaching. Transferring the canon of academic geography also remained central to the geography curricula at universities until the 1970s. And at post-war teacher training colleges, trainee teachers were imparted first and foremost with a broad factual knowledge – including of geography.

This exists to this day – for example, in Dutch primary education, where children are taught topographical facts, such as names of provinces, without any context. The teaching sometimes unintentionally takes on a Future 1 character, such as when students in second-level teacher training are tested for a basic knowledge of geography.

Future 2 – modern⁷

Future 2 is based on constructivism. Here, knowledge is put in perspective, as it is a social construction and is connected with positions of power. Knowledge and truth are merely personal and relative, and the attention shifts from knowledge to learning. This modern curriculum is progressive because it aims to widen access to education. Based on academic insights, curricula centred on skills and ‘learning to learn’ emerge. Attention is paid to learning and thinking as educational aims in their own right, unconnected to the subjects students are required to learn or think about. Gert Biesta⁸ criticises this as the learnification of education. He believes learning should be a means and not an end to education.

Modern curricula centre on the learner. Boundaries blur between school knowledge and everyday knowledge, and between subjects taught in schools. Learning objectives are expressed in terms of general skills, such as cooperating with others or problem-solving, or in measurable outcomes. In higher education too, many programmes have started to value practical knowledge more highly than conceptual knowledge.

This modern curriculum is ‘over-socialised’, with attention being directed more towards the learning activity than the subject matter. These ideas, also in teaching plans, have been permeated by the neoliberal language of the market and influence from major ICT companies and international publishers. We talk about ‘facilitating learning’, e-learning and personalised learning. The object is targeted qualification for further education, a profession or an industry in a globalised world.

Despite the good intentions behind progressive education, this approach also sidelines socio-economically disadvantaged young people. In this case, however, the exclusion is not expressed in protests as with the traditional curriculum but rather in apathy and ‘exit strategies’. A society in which parents and media set little store by expert knowledge fosters the attitude that it is all ‘not worth the bother’. On the other hand, a certificate is still a prerequisite for advancement, and highly-educated parents pull out all the stops to make sure that their children nevertheless get that coveted piece of paper so that they can continue studying, even if it takes additional tutoring and training for exams.

How do we recognise this modern curriculum in geography teaching?

Since the end of the last century, geography as a school subject has focused less on actual subject matter from the basic curriculum onwards, with attention shifting more towards social issues, the forming of opinions and information skills. Geography has been grouped

in the subject area of 'people & society', and there is less emphasis on physical geographical subjects. At the end of the last century, Rob van der Vaart⁹ was already warning against a predominance of pedagogic innovation at the expense of subject content renewal: much form and little content.

A solid, subject matter-based approach is often lacking. This becomes painfully clear in assignments that ask students to think about a complex issue and form an opinion or come up with a solution. The answer model will then state: 'own answer'. As if every answer is good and there are no better answers.

In university Bachelor's programmes, too, attention is being paid more to 'form' than to 'content'. The Bachelor's programme in Utrecht has a 'supermarket model' offering a wide range of choices, but the flexibilisation, modularisation and blended learning limit the possibilities for building expertise. The academic world is currently also devoting a lot of attention to 21st century skills, entrepreneurship and international competences.

In addition, noteworthy developments are taking place in the higher professional education teacher training programmes, such as those for primary education teachers. In teacher training for primary education, knowledge – of geography as well as history and biology – has been under a great deal of pressure since the competence-oriented curriculum introduced in 2000¹⁰. In primary schools, attention to geography, history and biology has been minimised in favour of language and maths.

The curricula of teacher training programmes in English-speaking countries also show a trend towards less attention for curriculum and content-related issues towards a focus on general teaching methods and an altered balance in favour of practice in schools. A practical focus need not necessarily be a problem, were it not that schools are also focusing all their attention on general didactic and pedagogic issues¹¹.

Future 3 – emerging

The Future 3 curriculum is based on social realism, a movement that arose in response to the predominance of social constructivism in educational studies, policy and practice. Social realism puts subject matter back on the agenda. It is based on a reality that exists independently from individuals, even though our knowledge of that reality is a human construct. Knowledge can therefore never be absolute, but it can be more reliable than mere opinion, provided it has been developed within the conventions of discipline-based communities. So something like 'better knowledge' and 'the best knowledge that we have' does exist.

Michael Young defines the main goal of teaching in schools as follows¹²:

'It is to enable all students to acquire knowledge that takes them beyond their experience. It is knowledge which many will not have access to at home, among their friends, or in the

communities in which they live. As such, access to this knowledge is the “right” of all pupils as future citizens.’

The Future 3 curriculum is also progressive and motivated by social justice. In principle, schools can contribute towards equal opportunities by offering pupils access to knowledge that is outside their sphere of experience. Such knowledge is dynamic and related to discipline-based concepts and ways of thinking. This is a curriculum of engagement with subject-based thinking. School subjects are not a given (as in Future 1), but neither are they arbitrary (as in Future 2). And there is a clear distinction between curriculum and teaching methods: didactic choices – the how – depend on the what and the why. Young and Muller¹³ call this a ‘knowledge-based curriculum’.

Are any elements of the Future 3 curriculum recognisable in existing geography teaching?

The current geography exam programme for senior general secondary education (havo) and pre-university education (vwo) is clearly a response to the preceding Future 2-like curriculum¹⁴. In 2003 a need was felt for a renewal of content in accordance with the latest scientific insights, and a reappraisal of physical-geographical subjects. The engagement with subject-based thinking and the relationship with academic applied geography are clearly expressed¹⁵ in the vision document for geography teaching drawn up by KNAG (Royal Dutch Geographical Society) as a professional association¹⁶. If we look at the practical situation and the translation of this vision document into an exam syllabus and content for school text books, characteristics of a traditional (Future 1) and a modern (Future 2) approach are discernible¹⁷.

The teaching methodology in the teacher training programmes shows a development that encompasses more attention for a subject matter-based, conceptual approach, as with historical or geographical reasoning, and the use of key concepts¹⁸. With his ‘perspective-oriented approach’, Fred Janssen, Professor of science education in Leiden, also shows that subject-specific ways of looking offer a powerful approach for enabling students to understand the world and to guide them through complex issues¹⁹. However, the time available for subject specific teaching methods in the teacher training programmes is under pressure, not least for funding reasons.

Utrecht University’s Strategic Plan calls for attention to a broad academic schooling for students so that they can contribute to a better world, based on in-depth knowledge of their discipline as well as the ability to look beyond borders²⁰.

In a nutshell: elements of the Future 1, 2 and 3 curricula exist side by side in geography teaching. The dominant discourse, Future 2, is subject to increasing criticism, and Future 3 offers alternatives.

2 Knowledge and powerful knowledge

I will now go into a little more depth regarding knowledge in a knowledge-based curriculum. There is a lot to be said about this. There are some major differences between disciplines²¹, but I mainly want to talk about the idea of ‘powerful knowledge’. Before I do so, I would like to make two comments.

First of all, that we need to distinguish between knowledge and ‘non-knowledge’, such as experience, views, belief and common sense. In education, it is important to distinguish between school-gained knowledge and everyday knowledge. In this context, Young²² distinguishes between the curriculum and the teaching methods. The curriculum is explicitly about knowledge gained in school or specialised knowledge, whereas in their teaching strategies, teachers must also take account of the ‘non school-gained knowledge’ of their students. This is therefore about giving access to knowledge that goes further than individual experience.

My second comment concerns knowledge and skills. Muller²³ argues that these should not be separated: there is no point in putting one before the other; they are both important within the curriculum. He proposes looking at them as two types of knowledge; ‘knowing that’ and ‘knowing how’. These are more interwoven than you might think. Kirschner²⁴ and others also emphasise the importance of knowledge, not only to think ‘about’, but also to think ‘with’. In this regard, generic or cross-subject skills are a misleading concept because they are always connected to substantive knowledge.

This brings me to the concept of powerful knowledge, specifically in the context of geography.

Powerful knowledge in geography

Young introduced the term powerful knowledge in the Future 3 curriculum. Powerful knowledge is dynamic and subject to change, but is also reliable and based on proof. Powerful knowledge is a part of a system of thought, is conceptual, sometimes counter-intuitive, and exists outside of the immediate experience of teacher and pupil. You cannot determine powerful knowledge based on a list of subjects. Young²⁵ says the following about this:

‘[...] it refers to what the knowledge can do or what intellectual power it gives to those who have access to it. Powerful knowledge provides more reliable explanations and new ways of thinking about the world, and acquiring it can provide learners with a language for engaging in political, moral, and other kinds of debates.’

All students have the right to access to ‘the best we have for creating new knowledge for the kind of world we envisage for the next generation’.

I can make powerful knowledge more specific for geography based on four fields of knowledge²⁶. You can describe them separately, but they only become truly powerful and meaningful if you view them in connection with each other. They also overlap, and that is precisely where powerful knowledge resides.

So what knowledge is powerful?

First of all, conceptual and theoretical knowledge are powerful because they enable you to look at the world in new ways²⁷. This knowledge consists of the geographical lens and the grammar of the subject. Geographers think in terms of contexts and relationships: here and there, local, regional and global; in the past, now, in the future; human beings and nature or the environment. The grammar encompasses key concepts such as region, space, scale, environment and diversity, as well as the ideas, theories and issues in the field of study. This

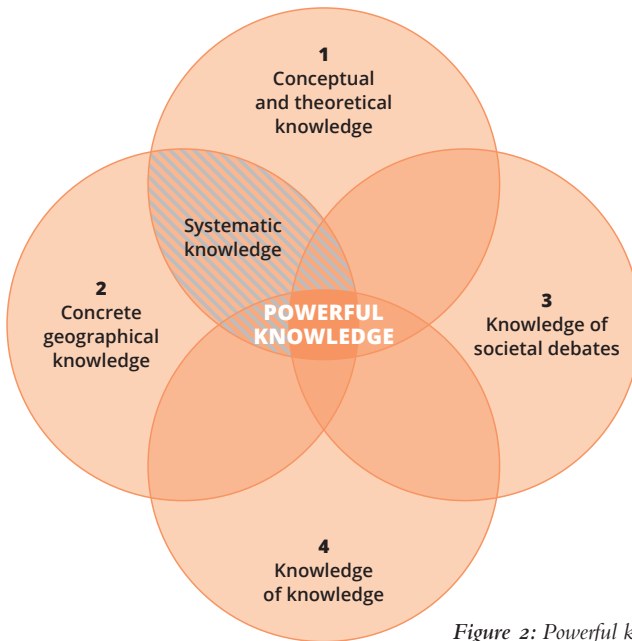


Figure 2: Powerful knowledge in geography

approach is thoroughly elaborated by David Harvey²⁸, for example, who speaks about the ‘deep structures of geographical knowledge’²⁹.

The second field of knowledge – concrete geographical knowledge – is powerful when it is outside the immediate experience of pupils and students and helps them to better understand the world. The vocabulary of the field of study consists of basic concepts and more factual knowledge that contributes to the acquisition of a geographical world view.

Conceptual and concrete geographical knowledge overlap in systematic knowledge, acquired through the application of the conceptual knowledge to concrete phenomena and places³⁰. So this is also where the knowledge lies of ‘knowing how’ to work with geographical methods. We can make a further distinction, but that would be going too far for now³¹.

The third field of knowledge comprises knowledge and language that enable you to *participate* in major societal debates, and to *imagine* desirable futures. Geographical knowledge helps with studying vital issues regarding globalisation, sustainability and equality/inequality³². This knowledge confers power, but also requires some skills on the part of students: they have to be able to ask questions, analyse viewpoints, conceptualise alternative futures and substantiate personal choices³³.

Finally, *knowledge of knowledge* is powerful, because if you know where knowledge comes from, and what the limitations are, you will have a grip on your own knowledge. This means that pupils and students must know how to collect, use and evaluate geographical knowledge. It is essential for the powerful knowledge approach that you learn to evaluate the claims about the knowledge yourself. This helps you to be an independent thinker and adopt a critical stance in respect of other people’s opinions³⁴. In school curricula, for example, for geography teaching in the Netherlands, knowledge about the origin of knowledge tends to be neglected.

An example: international migration

Let us take a look at how powerful knowledge can help us approach the issue of international migration from Africa to Europe – an issue that is prominent in Dutch and other European media and politics, and moreover a subject that is being examined by geographers and addressed in primary, secondary and higher education.

Western media and politics contain many myths and one-liners on this issue, often in terms that label migrants as different or inferior³⁵. One common assertion is that: Europe is being flooded with illegal African migrants, an exodus caused by poverty and conflict.

What powerful geographical knowledge could pupils and students use to question this assertion? Here, I am drawing on research and publications to which geographers such as Hein de Haas, Joris Schapendonk and Ton Dietz contribute³⁶.

The geographical lens (conceptual knowledge) helps us to ask questions raised by the above assertion. Literally mapping the migration from Africa to Europe gives answers to questions such as: what is the extent of the migration, can any trends be discerned, where do the migrants come from, and is the migration legal or illegal.

Reliable figures (concrete geographical knowledge) show that emigration from Africa is relatively small-scale compared to other continents, and that neighbouring African countries are the main destinations. Europe is the main destination outside of Africa, but migration to other continents has grown relatively faster. African migrants to Europe originally came mainly from North Africa, but this pattern is changing, with more migrants now coming from West Africa and, to a lesser extent, East Africa.

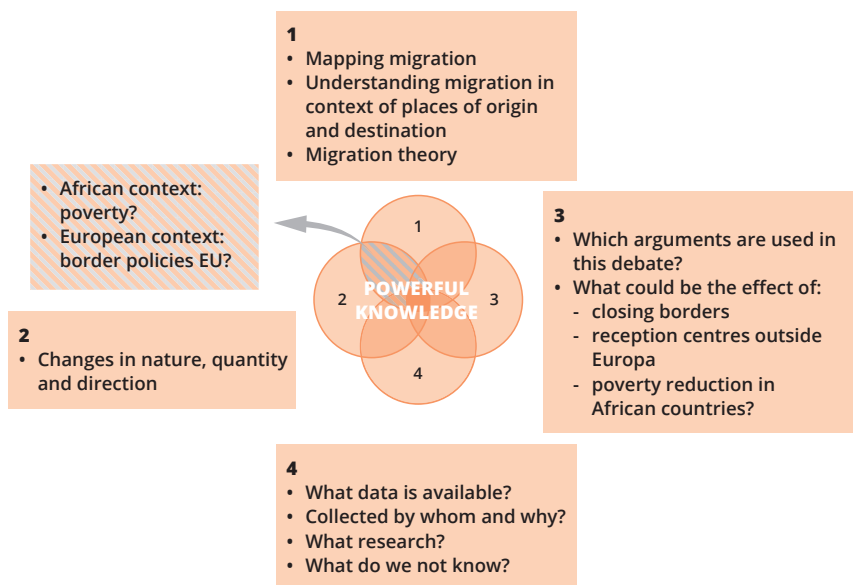


Figure 3: Powerful knowledge applied to the issue of migration

The extent of illegal immigration is limited; most migration is legal and related to family reunification, work and/or education. We can make some deductions about changes in migrant flows based on data from the UN, for example (knowledge about knowledge)³⁷.

We can then look at the African context (systematic knowledge): why is migration taking place and what role does poverty play in it? Long-distance migration takes place from relatively prosperous African countries. A higher score for development indicators is associated with a higher level of international migration. People migrating from these countries have the aspirations and financial means to do so. The Human Development Index has improved for almost all African countries this century. This migration is therefore expected to increase.

The European context is also important (systematic knowledge): we are after all getting 'flooded'. What is the border policy and what effects does it have on migration? The routes taken by migrants are constantly changing. Migrants travel for months, sometimes years, and pass through 'transit places', with social networks playing a significant role. Border policy of the EU and the separate Member States has a considerable influence on the routes, the organisation of the migration and the emergence of translocal economies. Restricting access leads not so much to fewer migrants than the emergence of illegal and more dangerous routes.

Dietz and De Haan³⁸ point out that the results of academic research into migration tend to strongly contradict popular assumptions (knowledge of knowledge). This type of knowledge enables pupils and students to ask questions about the current debate (knowledge of the social issue) and about media reports, and the solutions devised by politicians from left to right, such as blocking migrants by closing borders and creating reception centres outside Europe and/or combating poverty in the countries of origin through international cooperation. Students can think about possible effects of a further rise in living standards in African countries, and about the effects of closing the borders to illegal migrants.

Pupils and students therefore need to learn to imagine scenarios and ask themselves what is possible and desirable, and from whose perspective. In order to be able to fully understand such a debate and such issues, other professional perspectives are of course also relevant – for example, legal, economic and sociological perspectives.

The example shows that powerful knowledge is conducive to a better understanding of complex issues.

So with the concept of powerful knowledge in mind, I will now discuss the role of the teacher or lecturer as an expert on the subject matter.

3 Curricular leadership

In a Future 2 curriculum, which centres on learning and accords secondary importance to knowledge of subject matter, Young and Muller³⁹ predict a further de-professionalisation of teaching. The boundaries between the expert and the learner become blurred, and the teacher takes on a more facilitating role, in a process reinforced by the new technology used in personalised learning. Because the value of specialist knowledge is undermined, the teacher is valued less and less as a source of knowledge, thus eroding the very basis of the teacher's profession: their subject-related expertise.

In a Future 3 curriculum, in which powerful knowledge is central, that expertise is again heavily relied on. John Morgan, a British colleague who works in New Zealand, illustrates this using Brexit as an example⁴⁰. He analyses what in-depth knowledge a geography teacher in the UK needs to enable pupils to think in a meaningful way about this complex issue. In the space of three pages, he sketches a political geographical context that is important to be able to understand anything about this complex issue. Teachers themselves must have a grip on the issue, and identify what their discipline offers that can help with analysing the events, and what preparatory reading is useful.

All this precedes the final, practical choices for the lesson itself, and how to guide young people in approaching these types of complex issues. Morgan therefore argues that the complexity of knowledge and insight needs to be taken seriously, both regarding subject matter and in terms of teaching strategies, and that this should not be sacrificed in favour of generic teaching skills during teacher training.

In this context, the international GeoCapabilities project^{41,42} is an interesting initiative. David Lambert, a Geography Education Professor from London, is playing a pioneering role in the project, which rests on three pillars: (1) a capabilities approach, (2) the use of powerful knowledge and (3) the teacher as curriculum maker.

The capabilities approach is derived from the work of Amartya Sen and Martha Nussbaum⁴³, who consider what is needed to be able to lead a “flourishing and truly human life”. You need capabilities for this. Nussbaum names ten capabilities, some of which are interesting from the perspective of geography teaching. For instance, the capability to imagine, think and reason, the capability to show engagement with others, to take care of the natural environment, and to be able to participate in political choices that affect life⁴⁴.

If education can contribute to the capabilities of young people to lead a valuable life, then that is a worthwhile investment for the future. Powerful knowledge is a way to contribute towards this.

The GeoCapabilities website is aimed specifically at teachers and trainers. The materials offered promote a capabilities-based approach in which teachers and trainers think about the pupils and students they are teaching, and the reasons for teaching geography in schools. The activities help teachers to discover their role as curriculum leaders by seeing geography as powerful disciplinary knowledge.

Curricular leadership means that teachers have to combine three aspects when designing their teaching:

- the learners and the world they live in,
- the discipline regarding subject content and what it has to offer,
- the teaching strategies for getting learners engaged.

In the GeoCapabilities project, teachers were involved in thinking about how to use powerful knowledge based on ‘curriculum artefacts’. Geography teachers use many sources in their lessons – in the form of maps, graphics, videos, animation, infographics etc. – as starters, examples or information sources. An artefact is also such a source, but has a different function: the teacher uses it to identify and analyse powerful knowledge⁴⁵. In this way, the artefact becomes more than a mere source; you can build up a series of classes around it, with the artefact continually returning, supplemented by other relevant information. The best artefacts conceal a number of layers and stories⁴⁶.

Allow me to give an example from my own practice. With students from the teacher training Master’s programme, we went to Timisoara to do field work, and explored the Banat region situated in Romania, Serbia and Hungary, a region that gives insight into the complexity of borders, ethnicity and multiculturalism in Central Europe. Two weeks ago, we were standing next to this monument in the cemetery of Gottlob, a small German village in Romania, where 2,300 Swabian Germans used to live. This 90-year-old lady was born in the village, and is one of perhaps twenty old Germans still living there. These two images from the Banat region open doors to many layers and stories: when did Germans come here and why? Are there more German villages? What is the ethnic composition in the Banat region, and what does this mean for a regional identity? What borders were drawn here over the course of time? Looking at the events on the memorial, what did this lady experience in her lifetime? Why does her son now work in Germany, and why had all the young people left after 1990?



Figure 4: Curriculum artefact from the Banat region

Curriculum artefacts thus offer teachers tools for offering powerful knowledge.

In an F3 curriculum, which centres on powerful knowledge, teachers are expected to engage strongly with the subject matter. This content-related engagement should be shaped within a team of teachers, and with the support of supervisors, but it also requires broadly-based support and cooperation in networks outside the school, for example, in subject-based networks⁴⁷. Furthermore, academic geography should be structurally connected with the geography taught in schools⁴⁸.

The latter brings me to the Geography & Education Chair.

4 The Geography & Education Chair

The division into three curricula by Young and Muller is a caricature and a means to facilitate thinking about the role of knowledge in the curriculum. The practical situation is more complex, and the story regarding the Netherlands not so black and white. The question is to what extent and at what levels shifts have actually taken place. For example, regarding secondary education, has this been in the official curriculum, in school text books, the practice of teachers or in what pupils learn? Even though we would like to know more about that, just talking about it is beneficial.

In my experience, the philosophy of social realism offers a meaningful opening for thinking about the goals of education and the role of specialist knowledge in an appealing manner. For the international geography education community, thinking based on capabilities, powerful knowledge and curricular leadership has proved extremely fruitful, and is already being practically applied in teacher training programmes and design and research projects⁴⁹.

In this post-truth era with its major global issues, local challenges and rapid changes, we have to ask ourselves how we should prepare young people for such a world, and what knowledge can contribute and in what way. It would be good if universities took a clearer stance on this. I would like to see that happen in two different ways:

- Firstly, I would like to invite colleagues from other school subjects to explore the implications of this approach for teaching. Fellow geographical educators in London, Helsinki and Karlstad are currently working with colleagues from other school subjects across the arts, humanities and sciences on research programmes and projects based on these ideas.
- Secondly, I would like to advocate cooperation between schools (teachers), teacher education programmes (teacher educators) and geography-based and other relevant disciplines (lecturers/researchers) at universities, based on a shared responsibility and in the aim of increasing mutual engagement in knowledge production and reproduction. In school subject networks, they can think in concrete terms about the selection of knowledge, structure, progression and case studies.

I would like to emphasise that the question of powerful knowledge in the curriculum also applies to higher education. However, the context of a university is different to that of a school, and entails different curricular questions, which are also asked by Johan Muller⁵⁰: how do you deal with the continuing growth in specialist knowledge? More in a shorter space of time is usually not the best answer.

University lecturers are mainly appointed for their highly specific research expertise, about which they are keen to teach. This also raises some questions: the newest of the new in research does not necessarily equal the powerful knowledge that students need.

It is important for us within the framework of renewal – for example, of the Human Geography and Planning Bachelor's programme at Utrecht University – to discuss the selection and structure of contemporary geographical knowledge, to adopt an integrated approach to knowledge and skills, and that sufficient expertise is retained across the whole field of expertise⁵¹.

The Geography & Education Chair lies within the field of geographical education research, which David Lambert defines as being basically 'the study of how geography contributes to education'⁵². What is geography, why does it matter from an educational point of view, what can be taught, and how? These are important questions that need to be asked again and again, and which require us to make connections between the research frontiers in geography and in the field of educational research.

Over the past fifty years, a modest university tradition has arisen in the Netherlands in geography teaching, with attention being paid to geographical representation and expertise. Although geography education in schools and universities serve different goals, the relationships between the two are of crucial importance⁵³. Rob van der Vaart and Joop van der Schee have played a major role in this. The challenge is now mine to follow in their footsteps.

The Chair covers a number of fields: those of geography education, the educational Master's programmes (the university geography teacher education programme) and university education in human geography and planning, and where possible and desirable, even more broadly within the Faculty of Geosciences.

The Geography & Education Chair is based on the concept of powerful knowledge. I will give three examples to illustrate how this is being implemented:

- This autumn, an Erasmus+ research project will start that leads on from the GeoCapabilities project, within which I will be gaining experience on working with artefacts together with colleagues and geography teachers in five European countries, all of whom work at schools in a disadvantaged socio-economic context. What possibilities does the GeoCapabilities approach offer here?
- In education, powerful geographical knowledge is the subject-based point of departure for the two-year teacher education Master's programme entitled Geography: Education and Communication. With a range of courses on subject content and teaching methodology, we attempt to encourage students to on the one hand develop

powerful knowledge and on the other to reflect on the educational value of their field of study, geography.

- Regarding the research group's service to society, cooperation with KNAG (Royal Dutch Geographical Society) focuses on powerful knowledge. Leo Paul and Ton van Rietbergen are driving forces behind the geografie.nl website, which exists to make geographical knowledge accessible to colleagues, teachers and a wider audience. In addition, people such as Hans Palings are strongly committed to the further professionalisation of the Geo Future School⁵⁴, a KNAG initiative centring on powerful knowledge in a transdisciplinary context and curricular leadership.

And there is a lot more happening, of course. We are developing expertise regarding fieldwork, place-based education, and the use of digital geo-information for this, and I'm grateful for Tim Favier's support here. Uwe Krause⁵⁵ has embarked on a PhD research project which will provide us with more information about the influence of national and school contexts on the quality of geography education. In the Human Geography and Planning department, we are taking a more exploratory approach to university education, working on a Scholarship of Teaching & Learning led by Veronique Schutjens, Gery Nijenhuis and Bouke van Gorp.

5 In conclusion

Rector, ladies and gentlemen,

It will be an honour for me as Professor of Geography & Education to contribute towards high-quality geographical education in the coming years, through research, education and service to society. I would like to thank the boards of the university and faculty for their faith in me.

There is no good education without good teachers. Noel Castree⁵⁶ describes their "awesome responsibility" by proposing that there is no one correct collection of things that pupils need to learn, no single right way to learn, and that there are no self-evident goals in education. There are only ever choices about what to teach, how to teach and with what goal in mind.

I look forward to working on high-quality education together with many teachers in the coming years, and have every confidence in this endeavour. I consider myself blessed with the colleagues in the group, the department, the faculty and the Graduate School of

Teaching, many of whom are strongly committed to education. The school geography community is also special, with some 1,000 teachers participating in the KNAG Education Day each year. Their enthusiasm for the subject is galvanising. There is a group of teacher educators who feel a great responsibility for the quality and future of this school subject, and it is very gratifying to work with them.

I have had two mentors since my student days – Otto Verkoren in geography and research and Rob van der Vaart in geography and education – and two more in the past ten years. I have learnt a great deal from Joop van der Schee about supervising PhD research and from his collegial leadership, also in an international context. David Lambert first fired me with enthusiasm for the concept of powerful knowledge. I wish to thank these four professors for their unconditional support. I hope I will be able to fulfil a similar role for others.

Thank you for your attention.

Notes

- 1 Heijne (2018).
- 2 Young and Muller have compiled and elaborated their work from the past decade in *Curriculum and the Specialization of Knowledge*, which was published in 2016. Although published jointly, there are clearly chapters for which one of the individual authors is chiefly responsible. *Knowledge and the Future School*, Young, Lambert, Roberts & Roberts (eds.), a highly accessible version of the powerful knowledge narrative, was published in 2014. I consulted both of these books extensively for this inaugural address.
- 3 Bernstein (2000) in Wheelahan (2010), p.2.
- 4 Wheelahan (2010).
- 5 Young & Muller (2010; 2016).
- 6 Description in the next two paragraphs: chapter 2 from Young et al (2014) and Young & Muller (2016)
- 7 Description in the following four paragraphs: Young & Muller (2016), p.p. 18–20, 47, 73, 98.
- 8 Biesta (2007).
- 9 Van der Vaart (1997).
- 10 Blankman (2016), p. 34.
- 11 Morgan (2017), p. 537, 539.
- 12 Young (2014), p. 10.
- 13 Young & Muller (2016).
- 14 Van der Vaart (2001).
- 15 For example: ‘Geographical researchers are concerned with socially relevant subjects such as traffic and transportation, the economic development of areas, coastal zone management, environmental issues, development cooperation, internal and international migration and European cooperation. Geographers will always look for connections between the local and the national or international, and between different perspectives and time scales, exposing force fields of interest to societal debate. This “applied geography” ought to be exploited to the full in geography teaching.’ (Terwindt et al. 2003, p. 17).
- 16 Terwindt et al. (2003).
- 17 Pauw & Béneker (2015).
- 18 Taylor (2008), Counsell (2011), Adriaens et al. (2011).
- 19 Janssen (2017).
- 20 Utrecht University (2016).

- 21 There are major differences between disciplines in the composition of knowledge. The sciences disciplines are built up more hierarchically, while the social sciences consist of knowledge components existing side by side. For instance, a discipline such as history contains very little explanatory theory and a lot of empirical data, but the 'knowing how' is fed by a rich tradition of how empirical claims are evaluated and weighted and how narratives are constructed on the basis of facts. (Young & Muller 2016, p. 200)
- 22 Young & Muller (2016).
- 23 Young & Muller (2016), p. 184, p.199 where he refers to Winch 2000, *Dimensions of Expertise: A Conceptual Exploration of Vocational Education*, London: Continuum
- 24 Kirschner, Bergsen & Meester (2017).
- 25 Young (2008), p. 14.
- 26 Lambert & Morgan (2018) point to the problem of educational sociologists that a further exploration of powerful knowledge is needed in specific areas of knowledge. One of the questions is therefore how can we refer to powerful knowledge in the field of geography. A debate is taking place on this in the geography education community, see for example, the contributions to *International Research in Geographical and Environmental Education*. For instance: Slater & Graves (2016).
In this address, I try to paint a general picture of the different parts based on the abstract description of powerful knowledge by Young & Muller, the interpretations of this by Lambert and Morgan (Lambert (2015), Young et al 2014, Morgan & Lambert (2018), Lambert & Solem (2017)), and the more concrete elaborations by Maude for geography teaching (2015, 2016).
- 27 Maude (2015, 2016).
- 28 Harvey (2005).
- 29 Harvey (2005) puts forward four underlying structures that are characteristic for a geographical understanding. Together, they constitute the interactive core of geographical knowledge. According to Harvey, geographical work is at its best when combinations are made. Very concisely, this involves:
- a. mapping phenomena at various scale levels, analysing them, making classifications and drawing boundaries;
 - b. studying and explaining spatial behaviour and phenomena in social contexts (context of space and time);
 - c. studying areas where global processes have a local impact, but also as unique places with unique qualities and the various meanings they have for the people who live and/or work there.
 - d. studying the system of natural characteristics of areas and how they influence the use of space by people and how the relationships between people and nature are constantly changing.

30 Lambert & Morgan (2010).
31 Maude (2016, 2015) distinguishes between five types of powerful geographical
knowledge which he uses, for instance, to compare the Australian geography
curriculum with. Béneker & Palings (2017) have used this classification to analyse
the visions of trainee teachers regarding the content of geography teaching, and
Bouwmans & Béneker (2018) to describe the geographical part of cross-subject
curricula at four innovation schools. Tani, Cantell & Hilander (2018) use the
classification in their analysis of curricular innovation in Finland.
While the typology helps to concretise the debate on powerful knowledge, it also
entails the risk that we will see the components separately from each other, even
though powerful knowledge is based on a combination of the five types.

32 Dorling & Lee (2016).
33 Béneker & Van der Schee (2015a).
34 Maude (2016), Firth (2013).
35 See, for example, De Haan (2008).
36 Schapendonk & Steel (2016), Flahaux & De Haas (2016), Cummings et al (2015), Dietz
& de Haas (2018). Migration studies has become an interdisciplinary field with a clear
contribution from geographers, who have a tradition of studying migration.

37 Dietz & De Haan (2018).
38 Dietz & De Haan (2018).
39 Young & Muller (2016), p. 72.
40 Morgan (2017).
41 See www.geocapabilities.org.
42 The GeoCapabilities project comprises a number of phases and various partners. It
has aroused worldwide interest – see also the website and the partners. Publications
on the project include: Solem, Lambert & Tani (2013), Lambert, Solem & Tani (2015).
Uhlenwinkel et al. (2017), Bustin, Butler & Hawley (2017).

43 Sen (2013), Nussbaum (2011).
44 Nussbaum (2011), p.p. 33–34.
45 Bustin, Butler & Hawley (2017).
46 Biddulph, Lambert & Balderstone (2015), p.p. 66–69.
47 See for example Krause, Palings, Koster (2015), Béneker & Van der Schee (2015b).
48 Firth (2011), p. 159.
49 For example, teacher training programmes in the US: Boehm, Solem & Zadrozny
(2018)
50 Young & Muller (2016), chapter 13.
51 For this last point, see the valedictory speech by Van der Vaart (2016).
52 Lambert (2010), p. 85.

- 53 Rawding (2010).
54 Geofutureschool.nl: a new movement in secondary education.
55 Krause et al. (2017).
56 Castree (2005). *Nature*. Oxford: Routledge p. 246; quoted in Lambert & Morgan (2010), p. 53.

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