The social interplay of disciplinarity and interdisciplinarity – Some introductory remarks

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„Pupils are not disciplinary, the world neither, what about the knowledge?" (François Audigier)

Contents

Social Science Education as a subject field in schools is an intrinsic pluridisciplinary feature, whatever disciplines are included, however it may be organised and wherever it may be institutionalised. Civic education, economic education, social education and historical education each comprise several academic disciplines even if they are thought to be completely independent subjects. From the start on, disciplinarity and interdisciplinarity are on the agenda for any subject related to social science education and are one of its main problems.

For these introductory remarks interdisciplinarity can be simply defined as relating two or more academic disciplines or school subjects to each other if this is done in a purposeful, systematic, explicit and reflective way. The overarching goal is to improve education that is to enhance students' understandings of the worlds and their abilities to act within and towards them. A relationship between disciplines or subjects which misses one or more of the four characteristics can be called pluridisciplinary or multidisciplinary (cf. Audigier 2006).

In the following I first want to discuss some aspects of disciplinarity and interdisciplinarity at schools and at universities and the weakness of interdisciplinarity. I sketch some social science based ideas on the interrelationship between the subject structure of the academic world and the world of schools (3.) and of some tendency to commonalities or even unification of social sciences and related competencies (4.). I conclude with some remarks on different kinds of knowledge (5.). Last but not least, I'll give an overview on the papers in this issue of the Journal of Social Science Education (6.).

1. Disciplinarity at universities and schools

Disciplinarity represents an academic and educational normality which enjoys a broad acceptance. Interdisciplinarity is regarded as an complicated issue and at the same time a cherished and popular demand. Teaching and learning – and sometimes research – at schools is mainly organized by school subjects and broadly remains within their boundaries garnished by some subject overlapping elements, with the exception of some fields in primary schools. Historically, the organisation of school subjects seems to be subject to rather long-standing and diverse regional and national traditions which resulted in a broad variety of subject structures. Today we face a more or less globally institutionalised core of subject (see below) as Mother Language, Foreign Language, Mathematics, Natural Sciences, History and mostly some kind of aesthetic subject. A global trend favours Mathematics and Natural Sciences, subjects which used to be contested (Meyer/Ramirez 2005, 225)

Around this group of core subjects we find a spotted field of very different school subjects from a very broad range of different fields with different scopes, sizes, stabilities and combination of disciplines (cf. Audigier 2006). These peripheral subjects are subject to national path dependencies and to changing political influences. In most countries, the subjects belonging to the field of social sciences like Civic Education, Economic and Business Education, Social Studies or Civics/Economy are part of the peripheral group and are strongly influenced by politics. To have one's own subject responsible for civic education at schools of general education is far from being the standard all over Europe, as international surveys (IEA 1999) and country reports in back

ISSN 1618-5293
www.jsse.org

issues of the Journal of Social Science Education show (see JSSE 1-2003, JSSE 2-2003 and JSSE 2-2002).

From an educational point of view, some arguments can be presented for a disciplinary organisation of learning at schools. The subject structure mirrors to a certain degree the academic division of labour and facilitates to structure stocks of knowledge, to select relevant knowledge, to transfer it to schools, to train teachers academically and to keep the worlds clear for the students. Most important, it helps to avoid slipping into everyday thinking, mental laziness and corroboration of taken-for-granted representations. Moreover, discipline and disciplinarity are intrinsic features as well of modern academia as of modern schools in the Western world and closely related to *la forme scolaire* (Audigier).

Research, teaching and learning in the field of social sciences at universities are organized by academic disciplines and broadly remain within their boundaries garnished by some other-disciplinary and some inter-disciplinary elements. Historically, the organisation of academic disciplines seems to be subjected to a forceful global process of differentiation which produces ever new sub-disciplines from of a mother discipline and new mother disciplines in addition (cf. Klein 2006). The apparently never ending disciplinary division shows some parallel features to the ever deepening process of functional differentiation in modern societies.

Everyday thinking has deeply absorbed the prevailing disciplinary cleavages opposing natural sciences and cultural and social sciences. Within the social sector we find a widespread disciplinary separation of spheres with the economic world as intellectual property of economics, the political world as a legitimate claim of political science and the social world as the homeland of sociology. Teachers in the field of social science education normally share this mental fencing of societal spheres and social sciences. Moreover, disciplinarity is bound to a big range of vested interests: each disciplinary claim is a claim for resources and reputation, too, and each claim for redrawing disciplinary boundaries is viewed as an attack on established claim holders. Especially the last point puts obstacles in the path of each initiative to re-integrate academic disciplinary diversity be that at universities, teacher training academies or schools, in research, teaching or learning. Even less ambitious projects which aim at only re-organising the relationship or reconfiguring combinations of disciplines taught and learned mostly face heavy resistance. The battles of lobbyism flaring up from time to time between the professional associations of History, Geography, Politics and Economics give an informative example.

2. The weakness of interdisciplinarity

Of course, this general picture is sketched in too broad strokes and maybe painted too dark at all. For some it may even not depict some walled backyards full of problems but a well-kept and fertile landscape with a bright future. Interdisciplinarity and to a much higher degree claims to move forward – or back again – to a unified social science are highly controversial issues. As scholars brought up with the milk of disciplinary thinking and cooped up into the institutional boxes of our own disciplinarity we don't turn to interdisciplinarity with ease, let alone with hope for academic laurels in our future career. In social sciences at least, the young scholars feel compelled to follow the beaten path of a single disciplinarity and know very well that drawing too much on interdisciplinarity or even transdisciplinarity is a punishable offence. Later, at the height of their career and afterwards scholars of social sciences are often much more open for neighbouring disciplines and even for calling disciplinary borders as such into question.

However, from a scholarly and methodological perspective, too, the ways to interdisciplinarity are not well signposted and paved. Concerning the two big scientific families natural sciences on the one hand and cultural and social sciences on the other hand, the main methodological problems of interdisciplinarity are unsolved or at least contentious. Interdisciplinary cooperation in research and academic teaching remains an exception, disciplinarity seems to be the overwhelming rule. The interdisciplinary exchange in the field of social sciences between big academic disciplines like history, economics, sociology, and political science concentrates more or less on incidental communication and cooperation in specialised sub-disciplines like economic history, economic sociology, political sociology, social history, political economy or political history. Even closely related and methodologically rather similar disciplines as political science, economics and sociology which share origins, history, classics, paradigms and methodologies prefer a strong policy of disciplinary demarcation stressing their differences instead of developing their commonalities. The reproduction of disciplinarity at the cost of interdisciplinarity can be attributed, above all, to the institutionalised structure of incentives for disciplinary work, elements of which are faculties and departments, mainly disciplinary oriented research funding, journals and series, seminars and conferences, awards and prizes.

Not only that interdisciplinarity faces rather badly developed starting conditions and a hostile environment of well established disciplinary structures and philosophies. In addition, the problem of interdisciplinarity itself is manifold, as it is posed differently depending on the respective level. This diversity of the interdisciplinary challenge originates from five different levels of interdisciplinarity,

that are research, academic education, teaching and learning at schools, the general competence of understanding the social world (social science literacy) and last but not least real world problems which do not present themselves in fine cut disciplinary frames (cf. Audigier 2006). Most of the literature on interdisciplinarity refers to the level of interdisciplinary research; from this discourse, nearly nothing can be directly transferred to teaching and learning at schools and not too much can be learned from that for the method of interdisciplinary teaching at schools. Concerning the school level, most of the literature focuses on designing subjects and on teachers' interdisciplinary attitudes and competencies (cf. Lenoir 2006), whereas not too much is known on students' representations of the social worlds and the implicated consequences for learning (but see Davies/Dunnill 2006). Nearly nothing is known about the question if, how and why interdisciplinary knowledge and competencies are superior to disciplinary cut knowledge and competencies, be that with respect to the understanding of the social worlds and/or to act successfully and responsibly within them.

3. Social construction of disciplines and subjects

As educated social scientists we know for sure that disciplinarities are social constructs resulting from past conflicts, closed shop strategies, political decisions, processes of institutionalisation, creating path dependencies of disciplinary structures and institutions (cf. Audigier 2006). And we know of course: the inertia of an established and acknowledged compartmentalisation in the academic, in the educational and in the real worlds can't be arbitrarily put into move and the open or hidden hierarchy of school subject can't be easily changed (cf. Lenoir 2006; Audigier 2006).

To be clear, this is not simply a natural evolutionary process, on the contrary, the acknowledgement of new disciplines, the public funding of selected disciplines or the merger of disciplines to hybrids like Public Health or Neuroscience are highly contested and political issues. Designing disciplines and constructing interdisciplinarities is always a form of science policy and knowledge policy. Political deals of disciplinarity are social constructions and may have long-standing consequences. As an example the Robbins-Parsons-deal on the division of labour between sociology and economics may be quoted which admitted sociology as a new discipline at American universities in the 1920s at the not exactly cheap price to leave the economy to the economists and to do economy-related sociological research at best in their left-overs (Velthuis 1999). It took sociology more than sixty years to regain the economy as a legitimate core field of sociological research.

Academic disciplines and school subjects follow different logics because they are embedded in two different societal systems, the system of science and the system of education. Following Niklas Luhmann and his system theory, both are, in principle, independent from one another, the scientific system belonging to the environment of the educational system and vice versa. Ideally, the institutional structure of scientific disciplinarities should optimise research and production of knowledge, following the general logic of knowledge selection by testing its scientific truth, whereas institutionalised school subjects should optimise socialisation, education and acquisition of competencies (cf. Klein 2006, Audigier 2006), following the general logic of student selection by the criterion of their performance with respect to a specific knowledge domain. It can't be taken for granted that both structures coincide by chance. Concerning the system's function of performance based selection it doesn't matter which academic disciplines are used for assessment. But simultaneously, knowledge does express a relationship between a person and the society he or she is living in, that is, knowledge is always societally validated knowledge; moreover, knowledge is always acquired in the educational system and always opens or spoils chances of individual life courses (cf. Luhmann 2002, 97-102). Both insights make clear that the disciplinary structures of the academic system cannot simply be taken as templates for subject structures and knowledge stocks of schools.

In practice, the development of academic disciplines has some influence on the educative and administrative design of school subjects and the allocation of knowledge bases between them – and rather seldom vice versa. Obviously, the amount of educational time at schools and the space in subject tables for educational careers are limited. At least for half a century, this has resulted in a systematic contradiction between the subject structure of school education and the disciplinary structure of universities. Schools which are designed as educational careers with a high proportion of compulsory subjects and only small freedom of subject choice can't mirror the never ending academic differentiation. A policy of mirroring academic disciplinarity in compulsory school curricula would reach its limits, soon. This tension may be eased up by offering a big share of learning time for free subject choice of students; just the opposite will follow from a certain tendency to a more or less global standardisation of systems of education (see below).

For the field of social science education, the interplay between the loosely coupled systems of science and of education (and the political system and the social system, of course) has not been very well understood so far. I confine myself to some hints only. For example, the triumphant progress of the social sciences from the 1970s, closely connected with the hope for scientific social engineering, contributed to restraining the dominant influence of History on civic education and to

establish and expand social science knowledge in schools. Even the academic discipline of History has been strongly influenced by social science paradigms and methods which showed some changes in teaching History at schools, too (e.g. the "discovery" of social history and everyday history and a certain decline in the history of the nation state and its governments). A strong tradition of General Studies or General Social Studies at universities (for the US see Klein 1996, 87-132) may help to introduce some equivalent in schools.

There are lots of school subjects with a hidden and ignored interdisciplinary character, see for example History. Hans-Jürgen Pandel shows that an overarching academic discipline like History consists of several rather heterogeneous disciplines some of which are only very distantly related to each other and from a methodological stance even nearer to disciplines which are not counted to the realm of History (Pandel 2001). An example is Economic History and Economics. Hidden interdisciplinary subjects are English with literary studies and linguistics, Biology with zoology, botany, genetics, Politics if Political Science can really be conceived as an integrative discipline, and last but not least subjects like Geography which is interdisciplinary already as an academic discipline iridescent between science and social science.

Different academic structures entail different subject structures in schools and in the related educational disciplines. As a rule, Economics and Business form different faculties or departments in US or UK universities, whereas traditionally in Germany both disciplines are placed in a common faculty called "Wirtschaftswissenschaften" (sciences of the economy). What is coined Economics and Business Education in the United Kingdom appears by name as interdisciplinary, whereas the seemingly single-disciplinary subject Economy at German schools successfully keeps its double-disciplinary reference hidden. In both cases, other relevant disciplines like Economic History are kept out.

The big success of Economics and Business as academic disciplines, in policy counselling and in coining dominant models of governance in public discourse makes it much easier to claim Economy as an autonomous subject or at least as a knowledge area worth of expansion in general education. Political philosophies of locational competition and societal processes of commodification and commercialisation find expression in an economisation of civic education. In economic terms this can be understood as pull factors which create a demand for more economic knowledge in schools which is backed up by expectations that widespread knowledge from economics would improve the economic performance of an individual or even the competitiveness of a whole economy. But a strong argument for economic knowledge can be made from the needs of civic education itself. As Peter Davies and Richard Dunnill argue (2006), some basic economic knowledge, e.g. about taxes and government spending or national debt and inflation, provides an indispensable ingredient of informed citizens and a prerequisite of an appropriate political judgement and participation (see Davies 2006).

We have some push factors which bring in knowledge stocks to schools from the supply side of the academic knowledge market, too. Some scientific disciplines are interested in similar school subjects. Take a German case from the nineties as an example, where a lobby campaign steered by some scholars of economics and economic education and politically backed up by influential trade and employers' organisations succeeded in extending the teaching of knowledge from economics in schools.

Having or creating a related school subject may be in the material interest of an academic discipline. A discipline which enjoys a corresponding school subject can draw on that educational structure in requiring and assuring a variety of resources like students, chairs, personnel, project funding and reputation. As far as an academic discipline is more or less depending on corresponding subjects in schools, it will strive for securing its existence, its scope and its amount of lessons. In some countries some major academic disciplines were and are still heavily dependent on teacher education, see for example study of literature and linguistics or history. In Germany where special teacher training courses of study were the rule, 1999 nearly the half of all students of Anglistics were future teachers and two fifth of all students of German Language and Literature and of Mathematics were aiming at a teacher career.

Surprisingly, some social science disciplines are only very rarely represented in subjects or courses in schools, some of them don't show any interest in the existence of some counterpart in schools. Take sociology as an example. German sociology displays a rather strong disinterest in teacher education and the task of civic education as such (Späte 2006). In the UK, Sociology at schools has enjoyed an increasing popularity over the last two decades, in the US, the American Association of Sociology created in 2001 a National Task Force which was charged with developing and pilot testing a curriculum to be taught in high schools, because sociology courses were nearly not existent at American high schools (DeCesare 2004), while confronted with the same situation, the German Association of Sociology has remained passive so far.

4. Commonalities and unification of disciplines, subjects and competencies

By the current global process of institutionalisation and standardisation of education (Meyer/Ramirez 2005) the above mentioned national diversity in lists of subjects taught, their respective philosophies and sets of knowledge will decrease. Four mechanisms are steering this standardisation tendency (Meyer/Ramirez 2005, 221): shared rationalised models of the nation state, strong diffusion of global models of education, supported by international organisations, educational sciences and professions, decline of nationally specific and particularised influences. Following Meyer and Ramirez, all this holds especially for countries resp. societies which are closely connected to the world society. Meyer and Ramirez take primary education as an example for standardisation in the way that the American model of Social Studies as a school subject is going to displace the traditional subjects Geography and History more and more. They refer to contents standardisation and find an international tendency to extend teaching and learning to global problems and global history.

The field of social science education shows that unification of subject structures and contents in public compulsory education. The implementation of some kinds of citizenship education in the former communist countries in Eastern Europe vigorously influenced by American and European governmental and semi-governmental organisations may give an example for global standardisation. From an institutional stance the European Union, the Council of Europe and some non-governmental organisations can be regarded as big standardisers of civic and citizenship education.

Globalisation has a twofold effect on the discipline(s) of social science education. On the one hand, an international comparative perspective flourishes fostered by governmental supra-national civic education policy. On the other hand, some “Didactics”, for example the German and the French, hold a nationally rather self-centred discourse. Initiatives to internationalise research on civic education mainly came from outside the academia, that is from international political bodies which pushed forward research and implementation in this field through political programmes and accompanying funding. International journals on social science education with an actually international authorship and readership are still rather rare.

The disciplines of the social sciences are themselves subject to the processes of globalisation and standardisation. The global success of institutionalism in social sciences for example scatters a variety of rather similar approaches over different disciplines. By the same token methodological individualism, critical rationalism and the paradigm of rational choice theory had a strong effect on factual standardisation of social sciences (see Boyer 1999). To add a further unifying feature, social constructivism as a main theoretical foundation is widespread in all disciplines.

Taking up these common currents together with traditionally shared foundations of social sciences (see Audigier 2006) a strong argument for interdisciplinary teaching and learning in general education can be derived from these academic disciplines themselves. Social science education should be conscious of the commonalities of its reference disciplines, aware of a multidimensional social world, of the necessity to develop learners’ understanding of its interconnectedness and his or her capability of acting and of the restricted school time to be spent on social science classes and beware of counter-productive disciplinary quarrels. Then they can design an approach which focuses in the first line on comprehensive, disciplinary shared social science competencies and in the second line on relevant disciplinary differences which allow different views on the social worlds in a comparative perspective so that students can experience what exactly makes the difference in main and basic disciplinary understandings and their political implications (Hedtke 2005, 2005a).

I want to sketch shortly some of possible overarching trans-disciplinary competencies in the field of social science education which I propose to discuss critically and to develop in more detail. An example of such social science based competencies is the ability to deconstruct a societal phenomenon as a social construct, to outline at least one possible alternative to the existing reality and to take a certain shapability of social worlds into account in economic and political analysing and judging (social constructivism). A second competence of this kind describes the ability to reduce a societal problem among other things to interests and perspectives of individual or collective actors, to take up and judge their points of view on a trial basis and to reflect ones own interests and perspectives (interest-bias and perspectiveness). Let me give institutional framing as a third example, that is the ability to relate a societal phenomenon or problem to at least one relevant institution which frames it, to describe institutions as changing and changeable in principle, to detect their repercussion on individual acting in general and on the own personal acting in concrete situations.

Further competencies suggested (for more details see Hedtke 2006) refer to the communicative constitution of societal problems, knowledge and values, to alternative ways of thinking and the respective effects they produce in the societal worlds, micro-macro-linkages, normative pluralism, interdependency as a main feature of societal worlds, distinction of description and normativity, patterns of governance and awareness of unintended consequences of interventions, and last but not least the acknowledgement of evolution and historicity of societal phenomena.

5. Academic knowledge, orienting knowledge and action knowledge

Teaching and learning in schools regularly aims at two main dimensions, academic or school knowledge and the competence to analyse and to judge on one side, action and the competence to act successfully in every day life on the other side based upon action-related knowledge (cf. Davies and Dunnill 2006). Taking this two-dimensional basic structure of education into account, the relationship of academic disciplines and school subjects becomes even more complicated. It is a trivial insight from knowledge related research, that a direct link doesn't exist between scientific, disciplinary divided knowledge to situations in personal life in which individuals have to decide and to act.

For example, to have some orientation knowledge of the structure of a supermarket, its techniques of consumer control and the general impact of advertising doesn't help the individual consumer very much in finding his or her optimal choice. Even worse: The relevant academic disciplines chosen by Economic and Business Education – Business Administration, Marketing or Retail Management – do research mainly from the specific social perspective of the management with the main goal to develop techniques for the retailers to influence the consumer. The consumer himself or herself can't make use of these techniques to protect him- or herself against these techniques or even to make use of techniques which help him to carry through his or her own interests. Thus, he or she has to make a big effort to reinterpret and to reorganise this user-specific academic knowledge and to adopt it to his or her own situation as a *subject* of consumer choice and consumption and not as an *object* of marketing techniques.

Of course, this can't be used as a generalised argument against dealing with this kind of disciplinary knowledge for learning in schools and elsewhere. But if we want to help, for example, consumers to become economic rational actors (which, by the way, is not a matter of course), psychological knowledge, aesthetic deconstruction of advertisement and behavioural training in affect control may turn out as better ways to get there than knowledge and its applications from business or marketing, let alone economics. Obviously, the equation "learning economics and business = learning about the economic world = improving individual economic performance" is not generally valid. This is true at least for some important real world situations the learners are confronted with like consumption, choice of career or unemployment.

Even worse, applied as a general rule in social science education, this equation would block relevant orientation knowledge as well as action-related knowledge. It would prevent learners from understanding the political, cultural and social embeddedness of the so-called economic world. Take simply the problem of bad food quality as an example, whatever criteria for "bad quality" you may choose. Of course, economics can say a lot on this problem, its causes and its possible solutions. But this is not enough for an appropriate understanding, because quality measures for food are culturally framed, politically embedded and publicly contested issues, resulting from political (and economic) power, public political discourse, political decisions and political institutions. Theoretical as well as real world problems may be framed alternatively as political, economic or societal, the framing may change over time and is itself a political and often contested process. To understand this interconnectedness requires some interdisciplinarity in teaching and learning. A single disciplinarity alone would hinder learners from trying to shift economic problems analytically to political problems (or vice versa) and back to the economic again. Disciplinarily restricted knowledge would not allow them to switch in reality from one world to the other for example by politicising bad quality of certain food items through acting as citizen and voter ("voice") instead of only reacting as a consumer who simply changes his or her retailer or brands ("exit"). Of course, both types of reaction may help to improve food quality. But learners should know about the main differences of achieving this improvement by market mechanism, by government intervention or by other means of social engagement (Davies 2006).

Civic education finds itself confronted with the same problem. We easily can draw parallels from the relationship of the school subjects economic (and business) education towards the disciplines economics or business administration to the reference of civic education to political science which – if it is action oriented in research – follows rather a government related perspective than the goal to equip citizens with tools to realize their political interests which may be in conflict to those of political bodies. Ironically, in some crisis of legitimisation for political systems or governments, a majority of the discipline of civic education feels responsible to contribute to solve these "problems" following more or less the perspectives of the established actors of the political system. Cases in point are unwanted low polling, the youth's alienation from the government, from politicians or from politics as such, the precarious implementation of important political projects like the European Constitution or officially disapproved percentages of votes for left- or right-wing parties.

Apparently, some kind of functionalism is shared by both, economic education and civic education. Obviously, in both cases a large part of scientific knowledge, e.g. from political science or economics, is knowledge which originally was not developed for citizens, voters, campaigners, consumers or working people. In the best case, it was produced for academic purposes, in the worst case, it was produced for and financed by vested interests. Even neglecting the resulting potential bias, we still have to tackle the problem, that it turns out to be rather difficult to gain

directly action-related knowledge from scientific contents which are partly far from being applicable in the real word and partly far from the current and future situations and interests of the learners themselves.

6. Disciplinarity and interdisciplinarity in this issue of the JSSE

This edition of the *Journal of Social Science Education* presents papers that cover both sides of the disciplinarity-interdisciplinarity complex, its difficulties, shortcomings and its promises, as grand as unreliable, as well as approaches of interdisciplinarity and transdisciplinarity in teaching and learning which rely self-confidently on their own history, concepts and experience (cf. Klein 2006). Both, disciplinary and interdisciplinary teaching and learning face rather different problems depending on their institutional surroundings be that at universities, in research projects, or at schools. Of course, this issue of the JSSE highlights only a few aspects of disciplinarity and interdisciplinarity with a clear focus on social science education.

Julie Thompson Klein provides in her paper *A Platform for a shared discourse of interdisciplinary education* a systematical foundation for the discourse on disciplinarity and interdisciplinarity. She outlines the increased heterogeneity of academic knowledge and gives an overview on the history of interdisciplinary education at university and at school. Drawing on a broad range of studies she discusses notions of interdisciplinarity and transdisciplinarity and describes variables influencing related conceptions and practices, focusing on curriculum design in pluridisciplinary, interdisciplinary and transdisciplinary perspectives. On the level of didactics and teaching, interdisciplinarity is closely related to innovative forms of teaching and learning and to constructivist stances. To put the tradition of taken for granted subjects into question and to call for their restructure entails to review critically the goals of education as such. Teachers face the challenge to teach both appropriately, subject structured acquisition of knowledge and competencies on the one hand, overarching competencies which are interdisciplinary and require interdisciplinarity on the other hand.

The paper *Practices of disciplinarity and interdisciplinarity in Quebec primary schools: Results of twenty years of research* from *Yves Lenoir* presents research results on a field which enjoys a tradition of interdisciplinarity which a lot of countries have in common (cf. Audigier 2006). Some of them – like the German Laender, Austria and partly Switzerland – even integrate social sciences and natural sciences in a single subject. Lenoir is dealing with the representations and practices of primary teachers with regard to the ubiquitous term of interdisciplinarity. He develops a typology of four popular approaches of interdisciplinarity hold by teachers – eclecticism / holism, pseudo-interdisciplinarity / hegemony – and describes the absence of an appropriate conceptualisation. His research focuses on the teachers' understanding of the place and the function of interdisciplinarity and reveals a strong stratification of school subjects leading to a compartmentalisation of education and a constant marginalisation of all subjects except of mother language and mathematics. Both shortcomings can't be superseded by the government's new domain-based curriculum as teachers face the instrumentalist vision of education hold by parents and the challenge of practicing interdisciplinarity without being trained for it.

François Audigier addresses the problem of interdisciplinarity from the perspective of three disciplines and subjects – History, Geography and Civic Education – which mostly appear somehow connected in general education of most European countries. Preferring the term polydisciplinarity, his paper *Interdisciplinarity at School: Theoretical and practical questions regarding history, geography and civic education* examines internal and external relations of these three subjects. It outlines the main features which distinguish these subjects and contribute to their stability at school. Simultaneously its contents change through public demand in form of "education for", e.g. citizenship education, polydisciplinary in character but risky in running down to everyday knowledge. Audigier certifies History and Geography as hegemonic subjects in social science education of many countries, both of them using principally different registers of analyses and both mirroring perfectly the basic approaches of understanding the social world prevailing in their disciplines of reference. The presentation of the concepts of time and space and the related knowledge taught as a mere mirror of reality, leads to a formatting of the student's mind and to a naturalisation of culture. Very similarly, the more heterogeneous body of knowledge in citizenship education socialises the student into a world cherished by the respective political community and its hegemonic stance. The construction of a common culture can be thought as a common goal of these school subjects.

Peter Davies and *Richard Dunnill* ask how the dislocation between school knowledge and personal knowledge can be settled and how pluridisciplinary curricula which are often supposed to be rather a solution to this problem than a further worsening of it can support students in building integrated perspectives on social phenomena. In their paper *Disciplines and the outcomes of learning in social science education* they suggest to start curriculum design from an analysis of students' understanding combined with benchmarks of quality of understanding. Drawing on the Japanese approach of Lesson Study (see XXXXX http://www.jsse.org/2004-1/index.html XXXXX JSSE 1-

2004; XXXXX http://www.jsse.org/2004-1/lesson_lewis.htm XXXXX Lewis 2004 ; XXXXX http://www.jsse.org/2004-1/editorial_english_grammes.htm XXXXX Grammes 2004) they outline teacher training units for diagnosing outcomes of learning and hierarchically ranked types of understanding. Second, they propose to focus on ways of thinking and practising – "threshold concepts" – which aim at a conceptual change for the individual learner analogous to paradigm shifts within a discipline. They broaden this approach to develop an understanding by which students integrate perspectives from different disciplines. Third they suggest a training in applying the key differences between everyday arguments and academic arguments in order to learn to assess the quality of an argument.

Katrin Späte questions in her paper *Not Being Keen On School? The German Social Sciences' Didactics and the Omissions of Sociology: What it is all about* why sociology plays a marginalized role as a discipline of reference for civic education. Starting from the problem of integrating the three disciplines political science, economics and sociology in curricula and in classroom her historical outline shows that sociology as a discipline which views itself as a critically reflecting institution has lost interest in teaching and learning in schools, especially in Civic Education. This field was taken over by political science and economics and its related educational discipline which succeeded in mobilizing public support for their claims on civic and economic education. Their state and market fixed perspectives permeate didactical reasoning, although concepts like civic society and society of citizens gain more and more attention in the political branch of social science education. Späte's argues for a strengthening of sociology in civic education because it provides perspectives that are otherwise missing but important. She sees them above all in critical research on the interdependence of state, political administration and civic education, on students' and teachers' societal, political and economic representations and on the sociology of knowledge of civic education.

At universities students should have the possibility to acquire interdisciplinary competence and the ability to solve complex problems. Then, interdisciplinarity turns from a research related problem into a problem of teaching and learning. The paper *Promotion of interdisciplinary competence as a challenge for Higher Education* from *Jasmin Godemann* sees the complexity of present problems and the necessity of an appropriate kind of "new" knowledge as a main challenge for traditional disciplinarity. It describes the difficulties of interdisciplinary dialogue as a problem of knowledge integration and of knowledge asymmetries between disciplinary experts who are at the same time laypersons with respect to all other participating disciplines. To solve these problems, Jasmin Godemann draws, besides others, on a technique well known in civic education: perspective adoption. Her theoretical frame is illustrated by a case study, the "Sustainability Study Programme" at a German university which is dedicated to develop interdisciplinary competence of students.

The main topic of this issue of the JSSE is concluded with the review article *Civic Education as an Interdisciplinary Subject in Austria* from *Peter Filzmaier* and *Cornelia Klepp*. They show that Austrian education policy doesn't put civic education high on the political agenda and that apathy concerning civic education seems to be the main problem. Correspondingly, the teaching principle approach which doesn't rely on a core subject prevails. The school subject approach which provides civic education with its own subject occurs as a rather recent institutional form (for further reports on Austria see XXXXX http://www.jsse.org/2002-1/index.html XXXXX JSSE 1-2002). The cross-curricular approaches prevail in primary and lower secondary schools, the subject-centred approach in upper secondary and vocational schools. Filzmaier and Klepp raise the question of teacher education for civic education. In Austria it lacks a specific subject of study and is organised in form of optional areas of study where an interdisciplinary continuing education course is offered.

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