

Didactics of Futures Studies

Victor Tiberius
University of Potsdam
Germany

Introduction

Back in the mid-nineteenth century already, the German economist Friedrich List (1931, pp. 842 et seqq.) had called for a scientific discipline which focuses on the future. At the start of the twentieth century, H. G. Wells (1901 & 1987) replied this claim and asked for university professors of foresight.¹ Academic degree programmes in futures studies did not emerge though until the 1960s (Slaughter, 2002, p.350). Since then, their number has increased (Bell, 2002, p.242; Eldredge, 1975, p.27; McHale, 1978, p.11) and is currently quite stable (Hines, 2003, S.32). Aside from such "core" programmes, individual lectures and seminars have increasingly become part of other traditional degree programmes such as business administration or pedagogics. Eldredge (1975, p.24 et seq.) calls this the "futurising of regular courses". Most futurists agree that more futures-oriented programmes should be established (Marien, 2002, p.275).

For the majority of sciences and academic fields taught at school and university, it is a matter of course to take didactical issues into consideration. Despite the expansion of the field and acknowledged importance of professionalism in teaching in any subject, these issues have been relatively seldom addressed in this field. Richard A. Slaughter (1992) and James A. Dator (2002) are two rare exceptions worth mentioning. Most articles published on this topic represent field reports summarising the individual experiences made by an author. They provide interesting insights, yet generally only cover parts of didactical aspects. No systematic, general analysis of the didactics of futures studies has been conducted yet. This paper aims at closing this gap and offers a summary of a theoretical and empirical study carried out at the Institut Futur of the Freie Universität Berlin.

Methods

Didactics is a well-established sub-discipline of pedagogics in continental Europe (e.g. Jank/Meyer, 2003, pp.14-28) and deals with (good) teaching and learning (Speth, 2007, p.13; Timmerhaus, 2001, p.22). In English-speaking countries, the term "didactics" is often substituted by "curriculum" when focussing on teaching objectives and content, and taking a more practical look at teaching (Moon, 2002, p.42), by "instruction" when aiming at teaching methods, or by "research on teaching" when gaining empirical insights from actual teaching. Didactics consists of five main components: teaching objectives, contents of teaching, teaching methods, media used in courses, and ways of examining and testing students (Borsum, Posern, & Schittko, 1982, p.52; Klafki, 1994, p.44; von Martial, 2002, pp.17 et seq.; Speth, 2007, p.14; Timmerhaus, 2001, p.230).

In general, there is not any single right way to address these issues. In fact, they cannot be concluded from any superior principles in a well-defined and unambiguous manner. On the contrary, all of them have to be normatively set. The teaching objectives and contents have to be selected first, then they have to be implemented in teaching through the use of adequate methods and media. Finally, students' learning efforts have to be ensured in terms of the given objectives. The normative character of didactics, however, must not be misunderstood as randomness or arbitrariness. The didactical components still have to be selected diligently. Even if they cannot be verified in a strict positivistic way, they need to be justified with sound reasons.

To determine how futures studies is being taught and should be taught, the study took an *inductive* approach,² i.e. specific sources were examined which could deliver corresponding insights. Three important sources for this purpose are: the analysis of academic literature from the field, the analysis of university study programme curricula, and interviews with professors and lecturers (Zillober, 1984, p.21; Zwyszig, 2001, p.96 et pass.). These sources can provide well-founded, reasonable theoretical and empirical answers to the five didactical issues mentioned above.

Academic Literature

Futures studies itself is an important didactical source. It is essential to have a substantiated knowledge base of the subject, as this serves as the normative and conceptual fundament for its teaching (Zwyszig, 2001, p.27). However, an academic field or subject area can only contribute to selecting teaching objectives and teaching contents, not to the other three didactical issues. They have to be selected later with reference to the earlier settings.

Compared to other fields, there are only a few books in the area of futures studies which have an introductory character for educational purposes. The first volume of Wendell Bell's (2003) "Foundations of Futures Studies", and the CD-ROM "Knowledge Base of Futures Studies" by Richard Slaughter and Sohail Inayatullah (2000) currently meet this requirement best. A very broad compendium of research methods in futures studies is also provided by Glenn and Gordon (2009).

In addition, a wide variety of relevant book publications can be found. Michael Marien wrote approximately 17,000 abstracts of such books in the former bibliography service "Future Survey"³ between 1979 and 2002 alone (Marien, 2002, pp.262 et seq.).

Real proficiency in futures studies also calls for the regularly based study of relevant scientific journals such as *World Futures* (established in 1945), *Technological Forecasting and Social Change* (1963), *World Future Review* (1966, 1985 & 2009),⁴ *Futures* (1968), *Long Range Planning* (1968), *International Journal of Forecasting* (1985), *Journal of Futures Studies* (1996), and *Foresight* (1999), all of which serve as venues for the current academic discourse and the field's rapid development.

Academic Degree Programmes

The research conducted here concentrated on the primary programmes in futures studies which capitalise on this field. While Marien (2002, p.275) still missed a systematic survey of such programmes, a good one is provided today by the Acceleration Studies Foundation on its website *Foresight and Futures Studies – Global Academic Programs*.⁵ Additionally, the World Futures Studies Federation presented *Programs in Futures Studies – Tertiary Futures Education*,⁶ which, however, was shorter and had a couple of broken links that had to be looked up. The secondary programmes and programme potentials mentioned on these lists were not focussed on here. Some of the programmes provided by these two lists also had to be eliminated because they no longer existed. Further research could not add any programmes. In the end, the selection contained 23 primary degree programmes in futures studies. Most of them were portrayed on websites or in PDF documents. In the majority of cases they were provided in English, although some other languages were used, too, including French, Italian and Spanish.

These programmes were subject to a content analysis which concentrated on counting the statements made concerning the five previously mentioned didactical issues and grouping them in categories.

Instructors of Futures Studies

The third source of didactic determinations were professors and lecturers who currently teach or formerly taught futures studies at the university level. A qualitative, half-standardised expert interview was conducted with them.

While the overall number of futurists is quite high nowadays, the subset of actual instructors is relatively small. The selection of these people was based on the following sources: first, it was obvious that the list should include instructors who work in the academic programmes mentioned above. Next, the member list of the World Futures Studies Federation was analysed. Third, the educators were selected from a list called *Foresight Educators & Researchers - Global List by Global Foresight*, a "community working to advance global foresight culture".⁷ Then the profiles of the authors who had published in the above-mentioned journals between January 2000 and May 2009 were analysed. Finally, the speakers attending *WorldFuture – The Annual Conference of the World Future Society* between 2005 and 2009 were integrated in the analysis. As in all sources, only those futurists who also teach were selected. The final list contained 114 people who were contacted by email between 21 January 21st and April 28th, 2009. Twenty-six of them turned out to be active in researching only, with no teaching activities. Five people could not be reached due to false email addresses and their correct address were unobtainable. Thus, 83 potential instructors were contacted in the end, 23 of whom agreed to be interviewed, which corresponded with 27.7 percent.

In the email, some introductory questions concerning the five didactical issues were asked. Additional questions based on the given answers were asked in succession using the communication strategies of the problem-centric interview style

(Witzel, 1989, pp. 244 et seqq.). The interviews were then analysed using the qualitative methods recommended by Mühlfeld, Windolf, Lampert and Krüger (1981) and Meuser and Nagel (1997). In particular, texts were paraphrased, and the paraphrases grouped and counted as in the content analysis of the degree programmes.

Results

The knowledge base of futures studies naturally provided a sound foundation from which the teaching content could be selected and teaching objectives could be formulated. In addition, the degree programme curricula also focused on teaching objectives and teaching content, but most of them did not go into the other three didactical aspects. In the interviews it seemed like most of the respondents only moderately reflected on didactical questions of their teachings; their responses often only covered some parts of the range of possible answers. Some respondents did have very innovative ideas for teaching futures, but some also had difficulties distinguishing the five didactical dimensions. While the research competence of the interviewed futurists can be considered high, the pedagogic skills did not seem to be regarded as so important.

Teaching Objectives

The portraits of the degree programmes showed quite precise ideas concerning teaching objectives. In contrast, the respondents' answers were usually punctual and selective. Some did not distinguish between objectives and teaching content.

The main idea of studying futures studies is to pursue an occupation in a futures-related field which might be anywhere from the corporate world, politics or the military, to non-profit-organisations or the educational sector (Markley, 1983, p.47 et pass.). In more detail, the analysis showed that cognitive teaching objectives dominated, which is typical for the university level. Affective objectives referred to the attitudes of the students towards futures studies and to the ethical questions surrounding futures research. Psychomotoric objectives hardly played any role at all. The findings are summarised in Table 1 (N_1 : mentions in degree programme curricula; N_2 : mentions by respondents).

Table 1
Main teaching objectives in futures studies

FS-related objectives	N₁	N₂
Understand the conceptional foundations of FS	8	7
Know the history and prominent representatives of FS and their work	0	4
Carry out analyses and evaluations of futures-relevant variables (environment, needs, wishes, values, expectations, changes, chances, and risks)	9	3
Apply methods of FS and develop alternative futures	8	14
Apply planning methods	7	6
Evaluate alternative futures	0	4
Formulate preferable futures	9	1
Interdisciplinary objectives with relation to FS		
Have a futures awareness/consciousness	0	1
Interdisciplinary/multidisciplinary reasoning	3	3
Think systemically and in greater contexts	2	2
Think in long-range and sustainable terms, be creative and innovative, consider alternatives	0	4

Teaching Content

As before, the portraits of the degree programmes were quite specific about which topics and contents should be taught. The respondents often answered punctually, placing an emphasis on futures research methods. Theories useful for futures research were also mentioned. Because futures studies can be regarded as an applied science, it was often stressed that students should work in one or more specific field(s).

Table 2
Main teaching topics/content of futures studies

Teaching content/topics	N₁	N₂
Conceptional foundation of futures studies, esp. scientific objectives, scientific objects, objects of experience, philosophy of science, ontology, epistemology, assumptions, history and institutionalisation	6	18
Theories of (technical, social etc.) change	7	5
Futures research methods	24	17
Application of futures studies in		
Management	8	3
World futures	6	2
Science/technology	5	2
Political governance	4	3
Society/culture/religion	4	3
Economics	4	2
Regions/nations	6	0
Environment	3	1
Security/defence/peace	4	0
Communications	2	0
Education	1	0
Health	1	0
Cities	1	0

Teaching Methods

The majority of professors and lecturers are quite conservative in regard to teaching methods, which is surprising considering the innovative nature of futures studies as a degree programme. Lectures and other instructive forms of teaching dominate here as they usually do at the university level (Thomas, 1991, p.194). They are adequate when it comes to more or less well-established knowledge such as the conceptional and methodological basis of the field. Different kinds of seminars are held when the application of methods is focussed on or students have to work something out for themselves. Case studies, tutorials, role-playing games and projects are all very popular. The following table lists the findings according to how frequently they were mentioned.

Table 3
Teaching methods used in futures studies

Teaching methods	N ₁	N ₂
Lecture	3	19
(with discussion)	(1)	(9)
(guest lecture)	(0)	(6)
Seminar	3	17
(group work)	(1)	(5)
(case study)	(1)	(12)
(tutorial)	(1)	(7)
(project work)	(1)	(6)
(role play)	(0)	(7)
(presentation)	(1)	(2)
Self-study/reading	0	10
Distance learning/online education	3	7
(without face-to-face-lessons)	(3)	(0)

Media

Teachers of futures studies can utilise the full range of media in their courses when it comes to conceptional and methodological matters. These include blackboards, projectors and printed texts. However, since the future does not exist yet no original media can depict it. This is different from almost any other subject taught at school or university. Images, audio, or even kinaesthetic media can only show possible futures. Both the programme portraits and respondents displayed a certain degree of reservation here. The non-presentability of the future and the possibility of showing *alternative* futures are basically not reflected on very much. In such, only a few respondents actually show videos of possible futures despite the fact that videos were mentioned quite often. "Futures artefacts" that show how people imagined futures were only mentioned by two professors.

Table 4
Media used in teaching futures studies

Media	N ₁	N ₂
Films/videos	0	15
Slides with texts, tables etc.	0	12
Literature (lists)	4	5
Blackboard	0	6
Pictures	0	6
Online platforms	0	5
Handouts (photocopies)	0	4
Computer	1	3
Distance learning texts	0	3
Future artefacts	0	2
Audio media	0	1
Virtual environments	0	1
(e.g. Lord of Warcraft, Second Life)		

Examinations

In the degree programmes, students generally have to pass the same kinds of tests and examinations as they do in any other academic study programmes. Surprisingly, only a few respondents reflected on the problems connected with the assessment of images of the future.

Table 5
Examination types used in teaching futures studies

Examination types	N ₁	N ₂
Mid-term, end-term papers	3	12
Assignments	2	10
Final papers (master's thesis or project work)	8	3
Individual presentations	2	5
Written tests	2	2
Group presentations	1	2
Oral participation in class	1	2
Work placement/Internship	2	1
Participation in online discussions	1	1
Oral examinations	0	2
Attendance in class	0	1

Discussion

The main purpose of the study was to provide general answers to the five didactical issues involved with teaching futures studies at the university level. For this purpose, the knowledge base of the field was examined from a pedagogic view, existing degree programmes were analysed, and professors and lecturers from the field of futures studies were interviewed.

The selection of teaching objectives and teaching content had the widest support from all three sources. Teaching methods, media and examinations, however, have to be compatible with the knowledge base of a field, yet may not actually be derived from it. These questions therefore had to be answered primarily with empirical findings, which in turn had to be evaluated in terms of theoretical pertinence. In this matter, however, respondents provided more insights that the actual degree programmes.

The main teaching objectives focus on the knowledge of the conceptual foundation of futures studies, the ability to use futures research methods and the capability of working with alternative futures. The empirical support for the concepts of futures studies was comparably weak, but using methods and working with futures was stressed by the programme portraits, as well as respondents.

The topics and content that should be given attention to in the classroom reflect the objectives. The empirical findings show that futures research methods and their application to practical issues are highly important. This underlines the perception of futures studies as an applied science or field.

In regard to teaching methods, media and examinations, the results generally indicate a division between two parts based on the teaching content: one concerning well-

established, fundamental knowledge of the field and the other concerning the application of futures research and its results, i.e. concrete images of alternative futures. This corresponds with the idea of either objective or constructivist pedagogy. The objective perspective suggests that knowledge exists in an objective manner. The teacher can thus relay that knowledge to the student, who simply has to accept it. Knowledge is like a product that can easily be given from one person to another without changing its form. However, constructivists say that knowledge is only a mental representation of the world which merely exists in the minds of individuals who have to construct their knowledge based on their own experience. In such, knowledge cannot actually be transferred from one person to another. Teachers can only offer their views of the world, which in turn can only serve as a stimulus for students to compile their own highly individual knowledge. Students have to find "their own" reality in the classroom (Reich, 1997, p.119). Constructivism therefore does not look for absolute but only for relative truth or, put more precisely, its category is viability, the question if knowledge is useful.

However, the question is not which pedagogic view is generally correct, but which one is useful for what purpose. When teaching the concepts, history and methods of futures studies, the objective view is applicable. Yet this is less reasonable when it comes to working with alternative futures. Ontologically, they are non-existent and epistemologically, they cannot be known. Futures, from today's point of view, are thus merely fictions which are neither true nor false. They can only be constructed as images. The constructivist view is also very suitable for alternative futures, as it acknowledges pluralism. Pluralism accepts the parallel existence of more than one truth. In futures studies, this perspective is necessary when we do not believe in determinism.

When it comes to teaching methods, constructivists do not generally dismiss instructive teaching. On the contrary, instruction can provide working techniques which are necessary for the student to construct his or her own knowledge. Additionally, instruction is a method that is both effective and efficient in confronting the students with stimuli they can process. Constructivists suggest teachers provide an environment conducive to learning, focus on an action-oriented form of teaching, connect new knowledge to old knowledge and always keep the real living situation of the students in mind (de Haan & Rülcker, 2009, p.175). The teaching context should be rich, multimodal and communication-oriented (Huschke-Rhein, 1998, p.39). It should aim at leading students to self-discovery, which can be facilitated when the relevance of the discussed topic and the underlying principles are explained, when classes are both emotionally and motivationally appealing, and when different approaches can be tried out (Nanus, 1977, p.195). Media should be intensively used here.

A non-positivistic and non-objectivistic perspective is very much needed when the learning success has to be assessed, especially for grading purposes. Classical, cognitively oriented types of assessment can be used when students are supposed to share their knowledge or demonstrate they are capable of correctly implementing the methods of futures research.

On the other hand, when the issue of concrete images of the future is broached, it is necessary to proceed in a different manner. First, when a student has to enunciate

probable futures, neither he nor the professor is able to assess the real probability. When the time horizon is large, at least it is too late to wait for the future to come true, because the teacher has to grade the student now. However, when the future comes true, it turns to the present and therefore is no future any more (e. g. Serra del Pino, 2002, p.284). Thus, the whole point is that the degree of probability of a certain future is never actually subjected to assessment. According to a few respondents, the lecturer therefore has to confine herself to assessing whether a student is able to explore futures, give good reasons for using a certain method, apply this method correctly, and provide a rich, detailed, plausible and original scenario.

Second, examining even gets more difficult when the students have to evaluate given futures or articulate their own *preferable* (or preventable) futures. The normative basis of the preferable image of the future forces the examiner into even more humility. Again, only a few respondents presented specific ideas. According to them, examiners have to limit themselves to asking themselves the following questions: is the scenario possible at all, is it logical, is it useful for decision-making, is it socially authentic? And is the moral concept of the student consistent and ethical?

The study conducted here has some limitations, which also show the need for further research. First, the teaching objectives, teaching topics and content focussed on a general level. This was due to the fact that the didactical knowledge base is still at an explorative level. Additionally, the idea of the half-open curriculum suggests that didactics should concentrate on main ideas, while instructors still need to have a broad autonomy of decision-making (Zillober, 1984, p.22 seq.; Zwysig, 2001, p.83). However, more detailed insights can be aimed at in the future.

Second, further sources of inductive didactical disposition can be utilised. For example, students of futures studies could be asked about their motives and expectations. Also, the prospects and requirements of the employers of futurists could be surveyed. Further research on didactical issues will ultimately help facilitate the professionalisation of teaching futures studies, which, in effect, will advance the academic standing of futures studies itself.

Correspondence

Victor Tiberius
University of Potsdam
Institute of Management and Professional Services
Am Neuen Palais 10 (12/1.08), 14469 Potsdam, Germany
E-mail: victor.tiberius@uni-potsdam.de

Notes

1. This demand was also articulated on January 24th, 1902 in Well's speech on "The Discovery of the Future" given at the Royal Institute in London (cf. Masini, 2001, pp.640 et seq.).
2. For the inductive and deductive method of didactical determination see Brand, 2006, p. 57.

3. This is now part of the World Future Review published by the World Future Society.
4. The World Future Society's journal was originally called "WFS Bulletin" (1966) and later "Futures Research Quarterly" (1985). The current title has been in use since February 2009 when counting began again with Vol 1., no. 1.
5. <http://www.accelerating.org/gradprograms.html>
6. http://www.wfsf.org/index.php?view=category&id=82%3Ampf&option=com_content&Itemid=108
7. <http://www.globalforesight.org/page/Foresight+Educators+%26+Researchers++Global+List>

References

- Bell, Wendell. (2002). A community of futurists and the state of the futures field. *Futures*, 34(3), 235-247.
- Bell, Wendell. (2003). Foundations of futures studies: History, purposes, and knowledge, Vol. 1, 2nd ed., New Brunswick, NJ: Transaction.
- Borsum, Werner, Hans-Günther Posern, & Klaus Schittko. (1982). Einführung in die Didaktik. Munich, Germany: Beltz.
- Brand, Sylvia. (2006). Curriculumentwicklung in der Hochschule. Begründungen für eine beispielhafte Evaluation des Zusatzstudiengangs Sport und Bewegung der Universität Siegen. Hamburg, Germany: Dr. Kovac.
- Dator, James A. (Ed.). (2002). Advancing futures: Futures studies in higher education. Westport, CT: Praeger.
- Eldredge, H. Wentworth. (1975). University education in futures studies. A Mark III survey. *Futures*, 7(2), 15-30.
- Glenn, Jerome C. & Gordon, Theodore J. (2009). Futures research methodology. CD-ROM. Version 3.0, Washington, DC: The Millenium Project.
- Haan, Gerhard de & Rülcker, Tobias. (2009). Der Konstruktivismus als Grundlage für die Pädagogik. Frankfurt am Main, Germany et al: Peter Lang.
- Hines, Andy. (2003). The futures of futures: A scenario salon. *Foresight*, 5(4): 28-35.
- Huschke-Rhein, Rolf. (1998). Systemische Erziehungswissenschaft. Pädagogik als Beratungswissenschaft. Weinheim, Germany: Beltz.
- Klafki, Wolfgang. (1994). Zum Verhältnis von Allgemeiner und Fachdidaktik – Fünf Thesen. In Meyer, M. A. & Plöger, W. (Eds.), Allgemeine Didaktik, Fachdidaktik und Fachunterricht (pp.42-62). Basel, Switzerland: Weinheim.
- List, Friedrich. (1931). Schriften, Reden, Briefe. Vol. 7: Die politisch-ökonomische Nationaleinheit der Deutschen. Aufsätze aus dem Zollvereinsblatt und andere Schriften der Spätzeit. Berlin, Germany: Reimar Hobbing.
- Marien, Michael. (2002). Futures studies in the 21st Century: A reality-based view. *Futures*, 34(3), 261-281.
- Markley, Oliver W. (1983). Preparing for the professional futures field: Observations from the UHCLC futures program. *Futures*, 15(1), 47-64.
- Martial, Ingbert von. (2002). Einführung in didaktische Modelle (2nd ed). Baltmannsweiler.
- Masini, Eleonora Barbieri. (2001). New challenges for futures studies. *Futures*, 33(7), 637-647.

- McHale, John. (1978). The emergence of futures research. In Jib Fowles. (Ed.), *Handbook of futures research* (pp.5-15). Westport, CT: Green wood.
- Meuser, Michael/Nagel, Ulrike. (1997). Das Experteninterview – Wissenssoziologische Voraussetzungen und methodische Durchführung. In: Fribertshäuser, B./Prengel, A. (Ed.), *Handbuch Qualitative Forschungsmethoden in der Erziehungswissenschaft* (pp.481-491). Basel, Switzerland: Weinheim.
- Moon, Jennifer. (2002). *The module & programme development handbook. A practical guide to linking levels, learning outcomes & assessment*. London: Routledge.
- Mühlfeld, Claus, Paul Windolf, Norbert Lampert, & Heidi Krüger. (1981). Auswertungsprobleme offener Interviews. *Soziale Welt*, 32(3), 325-352.
- Reich, Kersten. (1997). *Systemisch-konstruktivistische Pädagogik. Einführung in die Grundlagen einer interaktionistisch-konstruktivistischen Pädagogik*, 2nd ed. Neuwied: Luchterland.
- Serra del Pino, Jordi. (2002). The challenge of teaching futures studies. In James Dator A. (Ed.), *Advancing Futures: Futures studies in higher education* (pp. 283-293). Westport, CT: Praeger.
- Slaughter, Richard A. (Ed.). (1992). Futures studies and higher education. *Futures Research Quarterly*, 8(4) (special edition).
- Slaughter, Richard A. (2002). Futures studies as a civilizational catalyst. *Futures*, 34(4), 349-363.
- Slaughter, Richard A. & Sohail Inayatullah. (2000). Knowledge base of futures studies. Millenium Edition CD ROM. Hawthorn, Australia: NN.
- Speth, Hermann. (2007). *Theorie und Praxis des Wirtschaftslehreunterrichts. Eine Fachdidaktik*. 9th ed. Rinteln, Germany: Merkur.
- Thomas, Konrad. (1991). Lehren und Lernen: Die soziale Situation. *Das Hochschulwesen*, (5), 194-196.
- Timmerhaus, Winfried. (2001). *Fachdidaktik als konstitutives Element universitärer Lehrerbildung. Bestandsaufnahmen, Analysen und Konzeptionen aus erziehungswissenschaftlicher Perspektive*. Marburg, Germany: Tectum.
- Wells, Herbert George. (1901). *Anticipations of the reaction of mechanical and scientific progress upon human life and thought*. New York: Dover.
- Wells, Herbert George. (1987). Wanted – professors of foresight! *Futures Research Quarterly*, 3(1), 90 (reprint from 1932).
- Zillober, Konrad. (1984). *Einführung in Hochschuldidaktik*. Darmstadt, Germany: Wissensch of tliche Buchgesellschaft.
- Zwysig, Marcus. (2001). *Hochschuldidaktik der Betriebswirtschaftslehre. Fachdidaktische Analyse und Vorschläge zur Neukonzeption der betriebswirtschaftlichen Ausbildung an Universitäten*. Basel, Switzerland: Weinheim.