Education and Training in Peace Research in Hamburg

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Abstract:

In Hamburg, peace and security education is mainly offered by the Carl Friedrich von Weizsäcker Centre for Science and Peace Research at the University of Hamburg and the Institute for Peace Research and Security Policy. The former institute offers interdisciplinary lectures and seminars open for students from all faculties; the latter institute offers the Master of Peace and Security Studies programme.

This paper introduces these education and training opportunities in Hamburg. Special emphasis is put on simulation conferences that are offered each semester, the summer school SCooP and the workshop “Teaching Ethics and Peace to Science and Engineering Students” that ended with twelve conclusions and six recommendations that are presented here.

Keywords: peace education; peace and security studies

1. Introduction of ZNF and IFSH

The Carl Friedrich von Weizsäcker - Centre for Science and Peace Research is an interdisciplinary institution at the University of Hamburg (ZNF). ZNF integrates aspects of peace research into the work of the Faculty of Mathematics, Informatics and Natural Sciences as well as contributing scientific expertise to existing peace-related research and teaching of all departmental activity at the University of Hamburg.

The Institute for Peace Research and Security Policy (IFSH) is an independent research institution at the University of Hamburg. The two terms in the institute's name highlight the central hypothesis underlying its work: Ensuring peace and providing security are two sides of the same coin. They cannot be pursued in isolation from each other. This is equally true of the situation - now receding into history - in which Europe knew peace under nuclear deterrence as it is of the contemporary situation, in which threats to security emanate from regional armed conflicts, transnational terrorism, and the proliferation of weapons of mass destruction. The work of the institute is thus underpinned by the postulate of a security policy that is both effective and geared to the use of peaceful means. The institute's current research programme, under the banner "Trans-nationalization of risks of violence as a challenge to European peace and security policy", gives concrete form to this approach. The IFSH's research profile demonstrates an awareness of political realities, a focus on problem solving, and an international mix of staff and project partners.
2. Teaching at ZNF

ZNF offers a regular and broad spectrum of lectures and seminars\(^1\). Being an interdisciplinary institution, students from all faculties of the University of Hamburg can participate in the lectures and seminars. Teaching at ZNF is based on connecting technical and disciplinary knowledge for natural science with research containing peace and security aspects. The overall goal of this connection is to profit from synergies from this interdisciplinary concept.

Teaching contents are questions relevant to peace research from the disciplines of physics, biology, geo sciences and math applicable to current problems of international security as well as the role of the United Nations. The goal of this teaching concept is to enable students to test scientific-technical statements from a security-political context. Building up on this, students learn to shape their own well-founded opinion in relevant topics.

Classes offered on a regular basis includes the “Carl Friedrich von Weizsäcker peace lecture to global challenges of humanity and responsibility of the sciences”; lectures, seminars and excursions under the topic “Scientific contributions to peace research” and the lectures including problem solving sessions under the title “Physical basics of peace research”. A special module consists of our simulation conferences – so-called Model United Nations – where students simulate negotiations of the United Nations, themselves becoming diplomats.

Specific lectures from the “Scientific contributions to peace research” series include
- “Theory and history of disarmament and arms control”
- “Nuclear weapons and their effects: From fission to first arms control negotiations in the Cold War”
- “Vertical proliferation: Arms race and bilateral arms control”
- “Horizontal proliferation: The non-proliferation regime”
- “Nuclear verification: Procedures and technologies to verify treaty compliance of nuclear arms control agreements”.

Specific lectures from the “Physical basics of peace research” series include
- “Ballistic missiles and missile defense”
- “Neutron and gamma detectors for nuclear verification”
- “Satellite imagery”
- “Production, operation and effects of nuclear and radiological weapons”
- “Detection of signatures from banned nuclear activities from long distances”
- “Trace analysis of Krypton-85 through an magneto-optical trap”
- “Simulation of atmospheric transport for verification purposes”
- “Material accounting of plutonium, HEU and tritium”
- “International and inter-generational risks of nuclear energy”

Physics students can bring in credit points from classes taken at ZNF into their physics curriculum. For students from other departments and faculties, usually similar arrangements are possible so that students from all faculties can include ZNF classes in their curriculum.

In addition, there is the possibility to write Bachelor and Master as well as PhD theses. This offer is especially relevant for physicists, but also students of biology, computer science, journalism, meteorology, philosophy and psychology have already completed theses.

3. Master of Peace and Security Studies

The postgraduate programme "Master of Peace and Security Studies – M.P.S." at the University of Hamburg is a trans- and interdisciplinary programme of two semesters’ duration, combining theory-

\(^1\) More information on teaching at ZNF can be found in http://www.znf.uni-hamburg.de/lehre_e.html, including past and present course catalogues.
based education in the areas of peace research and security policy with a practice-orientated application of methods for research².

The prime objective of the course is to provide highly qualified graduates from a national or foreign university and academically trained practitioners of a field-related vocational background with the fundamental basics of the discipline peace studies and security policy, as well as providing them with the instruments applicable for differentiated research in this field. Students will be prepared for a career in academic peace research, international organisations, the media or private companies, peace-keeping and monitoring, verification, development aid, mediation or arbitration, etc.

The course is a joint programme of the University of Hamburg and the Institute for Peace Research and Security Policy at the University of Hamburg (IFSH). The programme is further guided and partly implemented by a number of co-operating resident institutes of the "Cooperation Network Peace Research and Security Policy" (Kooperationsverbund Friedensforschung und Sicherheitspolitik – KoFrieS). The intense cooperation with the various resident institutes, each concentrating on different issues in the broad field of peace research and security policy, ensures the programme's diversity. The programme is co-sponsored by the German Foundation for Peace Research (DSF) and the German Academic Exchange Service (DAAD).

The instructional languages of the programme are English and German; students must be able to speak both with adequate fluency. foreigners are welcome to apply for the course. Admission to the course is limited. A University/Institute joint committee takes responsibility for selection. The programme starts by October each year and runs through August. Within the context of the course, students may play an active role in the building of a peace-network programme in South-East Europe. Furthermore, all students will have the possibility to carry out a period of praxis-orientated research at one of the co-operating resident institutes.

2. Model United Nations at ZNF³

On January 18-19, 2008, ZNF conducted the first simulation class of the UN Security Council Conference. This was in conjunction with an intensive seminar designed for students of the University of Hamburg to play the roles of diplomats and foreign ministers of selected countries. They were tasked to gather information about significant issues and corresponding country positions. The aim was to provide a unique setting for students to learn about the decision-making process in the UN which concerns political issues and problems of the international community; and to learn how to develop and express their own opinions with a goal to convince other participants. The willingness to agree to a sort of compromise in order to arrive at a final resolution was one of the values that this seminar wants to achieve.

In the summer semester of 2008, ZNF held a seminar entitled “The UN Negotiations on Science and Technology Concerns with Role-play: A Journey to Geneva for the 2008 NPT PrepCom” This seminar involved students from various disciplines to conduct interviews with diplomats attending the 2008 Preparatory Committee (PrepCom) of the Non-Proliferation Treaty held on April 28 to May 9 at the United Nations office in Geneva, Switzerland.

In the summer semester 2009 the ZNF under the lead of Prof. Martin Kalinowski organised its second Model United Nation Conference, this time international. After the success of the Simulation Conference of the Security Council on the Iranian Nuclear Programme in January 2008, an international follow-up project was started. This time the COP15 of the United Nations Framework Convention on Climate Change (UNFCCC) which in the real world will take place in Copenhagen, just a couple of months later.

On May 11 and 12, 2010, more than 30 students from different fields of study (coming mainly from the TU Darmstadt and the University of Hamburg, Germany) came together in New York for a simulation exercise of the negotiations on Articles IX (Nuclear Weapons) and X (Nuclear Material) of the model

² More information on teaching at IFSH can be found in http://www.ifsh.de/IFSH_english/studium/mps.htm, including past and present course catalogues.
³ See http://www.znf.uni-hamburg.de/themenbeitrag_modellun_e.html.
Nuclear Weapons Convention (mNWC, UN document A/62/650). This served as a side event to the 8th Review Conference of the Non-proliferation Treaty (NPT RevCon).

The Nuclear Weapons Free Zone in the Middle East has been a subject in political discourse for a long time. The 2010 Review Conference of the Non-Proliferation Treaty in New York has adopted a corresponding mandate for action and called for the establishment of a first Conference of the States of the Middle East by 2012. In this seminar, students simulated this conference in advance, finally not passing a treaty on the establishment on such a zone, but passing a resolution with confidence-building measures and statements of intent instead. A second MUN seminar that builds up on this result is planned for the future.

4. SCOOP

The Summer Academy “Young Scientists Cooperate for Peace” SCooP took place from the 2nd till 15th of August 2009 in Hamburg. Young scientists from all over Europe were invited to participate at the academic programme and get involved in the complex field of scientific peace research. Lectures on the topic of disarmament, arms control and verification of nuclear, biological and chemical weapons as well as consequences of climate change were held. In working groups participants got a better understanding of these topics. They analysed the complexity of peace research. Additionally they got introduced in the working field of non-governmental organisations (NGOs), peace institutes and politics.

The SCooP Summer Academy aims at the encouragement of the coming generation of scientists to strive for excellence in research. Directed to sustain permanent peace it gives advanced training within the frameworks of interdisciplinary peace research to challenge, integrate and reinforce European research efforts in the field of contemporary global conflicts, arms-control and conflict resolution.

6. Teaching Ethics and Peace to Science and Engineering Students

The natural and engineering sciences produce knowledge and technology which can be abused or used to the better. Students of science and engineering are often unaware of related dilemmas which they will face in their future careers. To address these issues, the workshop “Teaching Ethics and Peace to Science and Engineering Students” was held at ZNF on 15 - 17 October 2008.

The new bachelor and master programs of the Bologna process offer some opportunities to address such issues in dedicated teaching units. Initiatives for establishing ethics and peace education at universities have been promoted by various national and international organisations (like UNESCO, the UN Committee for disarmament education, the International Peace Research Association, the European Association for Engineering Education (SEFI) etc.). However, it depends largely on the local leadership, expertise and resources to put such intentions into practice. Every case is a story of its own.

The organizers of this workshop at the University of Hamburg have initiated peace and ethics teaching for science students at their universities. They cooperate within the International Network of Engineers and Scientists for Global Responsibility and within the Pugwash Movement.

Colleagues and experts with practical experience were invited to come to Hamburg for this three day workshop for sharing experiences and exchanging insight and inspiration for future work. The workshop was a platform for networking and establishment of cooperation, like joint development of teaching approaches and exchange of teaching material. We had 21 speakers and 17 additional participants.

4 More information on SCooP can be found in http://www.znf.uni-hamburg.de/scoop.html.
5 For detailed information on the program, purpose and presentations, see http://www.znf.uni-hamburg.de/ethics-and-peace.html.
6.1. Conclusions of the workshop

The participants of the workshop agreed on the following conclusions and recommendations:

1. **Responsible use of science and engineering is essential**: Universities have an obligation to prepare students for a responsible conduct and use of science and engineering in society.
2. **All students must be reached**: Hence the respective educational modules must be compulsory both at the bachelor and the master level.
3. **Natural and engineering faculties lag behind**: While many universities offer courses on medical ethics, respective teaching units in the natural and engineering faculties are only slowly being introduced.
4. **Different approaches exist**: The pioneering programs the workshop focussed on show a considerable diversity in scope and character ranging from optional courses through minor courses to a compulsory Studium Generale for all students.
5. **Bologna is an opportunity**: The Bologna process is an opportunity to introduce new educational elements for preparing students for ethical and social responsibility. However, mechanisms that guide and safeguard the actual inclusion of such necessary elements are lacking.
6. **Accreditation bodies support teaching responsibility**: Accreditation bodies have formulated criteria for learning outcomes that relate to ethical and social responsibility. These criteria imply and support the need to introduce the educational elements referred to above.
7. **External funding decisions or guidelines are important**: External funding decisions or guidelines of governing bodies which triggered or mandated the introduction of such courses have been decisive factors in several successful cases (Denmark, Finland, some Dutch universities).
8. **A nucleus of motivated and competent staff is essential**: The presence of nuclei of motivated and competent staff in each school and department is a necessary precondition for developing and providing adequate educational forms and contents.
9. **Staff nuclei have to be augmented**: This can be achieved by allocating and training additional staff. The actual funding situation regarding this teaching is often inadequate.
10. **Active learning forms are important**: They relate the learning process to real life situations. Successful programs have made good use of role plays, case studies, project and community work. The aims of these learning forms need to be made explicit and they should be linked to appropriate theoretical and empirical input.
11. **Need for teaching material**: There is a great need for the development of suitable teaching material in print and web form. This should be nationally and internationally available at low cost.
12. **Going beyond the individualistic approach**: The individualistic approach to teaching ethics and peace to science and engineering students which puts the ethical responsibility solely on the individual should be augmented to include a critical analysis of the broader context in which they will do their work (organisations and their cultures, laws, political decision making, economic and social pressures). Without this attention for “critical analysis of the context”, courses on ethics for scientists and engineers may end up having a negative impact, by merely making students shrug their shoulders and turn to “business as usual”.

6.2. Recommendations of the workshop

1. **Make use of the Bologna process!**: University leaders Europe-wide are asked to make determined use of the Bologna process in order to introduce teaching on science, engineering and social responsibility. Accreditation criteria require preparing students for professional and social responsibility. University leadership is needed to see to the proper installation of such teaching into curricula.
2. **Provide external funding and guidelines!**: Experience shows that external funding decisions and/or governmental guidelines can be crucial to start the process. This has been successfully illustrated e.g. in Denmark, at some Dutch universities and at the University of Hamburg.
3. **Make it compulsory!**: All students of science and engineering need to be reached. Hence the teaching elements have to be compulsory.

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6 Spitzer H; *How to prepare students for a responsible use of science and engineering: Results from the workshop “Teaching ethics and peace to science and engineering students”, University of Hamburg, 15-17 Oct 2008*; retrieved from http://www.znf.uni-hamburg.de/brochure.pdf.

7 Ibid.
4. Motivate teaching staff. Motivated teaching staff is a prerequisite. Existing kernels of such staff need to be augmented by allocating and training additional staff proportionate to the teaching task.

5. Use active learning forms! Active learning forms like project work and role plays are instrumental, especially for interdisciplinary problems. Existing staff should be encouraged and supported in introducing such elements. Theoretical understanding has to be complemented with case studies and real life situations.

6. Enhance the attractiveness for your students! There are strong reasons to expect that universities will enhance their attractiveness and success by preparing their students for a responsible conduct and use of science and engineering in society.