Medical Education

Communication and social competencies in medical education in German-speaking countries: The Basel Consensus Statement. Results of a Delphi Survey

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On behalf of the Committee "Communication and Social Competencies" of the Association for Medical Education (Gesellschaft für Medizinische Ausbildung, GMA) and the Basel workshop participants

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ABSTRACT

Objective: To propose a comprehensive set of competencies and educational objectives for communication and social competencies in undergraduate medical education and to support the nationwide implementation of these issues in all medical schools.
Methods: Thirty experts from different medical and psychosocial disciplines participated in a 2-day workshop using the Nominal Group Technique (NGT) to develop an initial set of educational objectives. These were refined, structured, and rated according to their importance by means of a two-step Delphi Survey involving additional experts in medical education.
Results: The initial workshop resulted in 188 educational objectives assigned to 26 different topics. After the Delphi Survey, 131 objectives remained, assigned to 19 different topics. Some objectives that could be assigned to more than one topic were subsumed under a new more general category.
Conclusion: The described consensus process proved successful as one method to develop a set of educational objectives.
Practical implications: The Basel consensus statement can be used to orientate curriculum reform and development in medical education.

1. Introduction

1.1. Background

The importance of teaching and assessing communication skills in undergraduate medical education has been recognised in many countries around the world. In recent years, further inter- and intrapersonal skills – teamwork, personal and professional development, or dealing with uncertainty – have also been identified as core competencies for medical school graduates [1–4]. Medical schools in German-speaking countries have just started to integrate these competencies in the regular curriculum. If taught and assessed, the content and amount varies widely. Few schools have defined outcomes and educational objectives for this area. The authors therefore identified a need to provide a set of competencies and educational objectives to support the implementation of communication and social competencies in all medical schools as a core component of medical education.

A competency-based approach to improve medical education has gained acceptance in recent years. The Bologna Process has broadened the definition of educational goals from declarative knowledge to the definition of competencies [5]. Knowledge and competencies have to be strictly defined in order to be able to compare and mutually accept degrees from different academic

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institutions in Europe. A prerequisite for a European qualification framework for medical education is the definition of national frameworks such as the Dutch Blueprint or the Swiss Catalogue of Learning objectives [6].

An interesting starting point for a European perspective is the recently published "Tuning Project (Medicine)" [7]. This project began in 2000 as an initiative funded by the European Commission to develop common core learning outcomes/competencies for degree programmes in Europe.

Another source for innovation are the students. The German and the European student boards have defined core curricula for medical education which are promising drafts for further discussions [8,9]. There are already some medical schools in Germany and Austria which have defined their qualification frameworks (e.g. Hamburg, Berlin) by either using educational objectives or competencies but none of them could be considered as a national or even international guideline.

These publications refer to the complete undergraduate medical programme. Expert groups and associations have also defined more detailed core curricula and consensus statements for specific parts of medical education. In the field of communication skills, the most recognised publications are the Toronto Consensus Statement [10] and the Kalamazoo Consensus Statement I [11]. These statements define good practice for the doctor–patient encounter and are the most helpful for planning and running communication skills trainings, assessments, and evaluations. At the moment, there is no comparable statement in German-speaking countries.

Recently, communication and social competencies have been seen in a broader context. Teamwork, collaboration with other health professionals, communication with relatives, personal and professional growth have become more and more important—but are not yet mentioned within existing communication guidelines.

1.2. Purpose of the project

The aim of the project was to reach an expert consensus for German-speaking countries, defining which communication skills and social competencies medical graduates should have achieved at the end of their studies. The guideline called "Basel Consensus Statement" was developed by an interdisciplinary group of experts from different medical schools in Germany, Austria, and Switzerland. It aims to support teachers and planners in improving and evaluating educational programmes in the field of communication skills and social competencies, to strengthen the position of teachers and planners in their schools and to stress the significance of communication and social competencies in medical education. Furthermore, it aims to provide a basis for the development of an interdisciplinary longitudinal curriculum from the first to the last year of studies. It also provides a blueprint for reliable and valid assessment methods, and aims to stimulate projects in the field of medical education research.

2. Methods

The existing publications about the above mentioned consensus statements scarcely describe the methods on how consensus was achieved. The BEME movement (Best Evidence in Medical Education [12]) demands proof of evidence and transparency of methodological approaches for projects in the field of medical education. Therefore, we decided to describe and discuss the consensus forming methods of the projects in more detail.

In the literature, a variety of methods have been described of how formal consensus decision making can be achieved [13–15]. Clinical guideline development has been a particular field of application of consensus methods [15–18]. The best-known methods are the Delphi Method or Technique [19–25], and the Nominal Group Technique (NGT) [26,27]. Other methods are consensus development conferences or panels, staticised groups, social judgment analysis, structured discussions, Glaser's State-of-the-Art Approach, and of course informal consensus forming [13,15]. However, a combination of methods and a systematic literature review is also recommended [17,18].

The aim of consensus methods is to determine the extent to which experts or others agree about a given issue. They provide participants with a structured environment for problem solving, and seek to overcome disadvantages of informal consensus forming, e.g. dominance of individuals. Typical features of consensus methods are avoidance of dominance, iteration, controlled feedback, and statistical group response [14]. For the consensus forming process in this project, the Nominal Group Technique and a modified Delphi Survey were used, due to the fact that they are well researched and their application is feasible.

2.1. Basel workshop and Nominal Group Technique

In September 2006, the authors organised a workshop in Basel (Switzerland) to develop the first draft of the Basel Consensus Statement. Thirty-four experts were invited, 30 persons participated in the workshop (14 men, 16 women). When selecting the experts, attention was given to different status groups (professors, assistants, students) and to a broad variety of different medical disciplines and medical schools (see Appendix A). An expert was defined as somebody who possesses relevant knowledge and experience, and whose opinion is accepted by other persons in the field (demonstrated by relevant journal publications, published books, presentations at conferences, etc.). The number of experts followed the recommendations [13].

The preparation of the workshop included a literature search. Based on the literature, including the existing consensus statements, basic preconditions were set by the project leaders, namely the authors. The intention was to describe a minimal standard of competencies every graduate should have achieved at the end of their studies. It was not intended to describe an ideal graduate. The objectives should describe observable behaviour and be phrased according to Bloom's taxonomies of educational objectives [28–30]. A hierarchical system from general competencies to concrete educational objectives was developed to define the framework for the workshop (see Graph 1). All participants were asked to read a set of articles, including the existing consensus statements.

The participating experts were assigned to one of five parallel groups (Level 3), developing topics and educational objectives (Levels 4 and 5) using the NGT. NGT is a structured format to gather information from experts about a given issue. It consists of a series of group working phases, including brainstorming, discussion, and rankings. The group meeting is facilitated and structured as follows: participants write down their views and ideas about the topic. Each participant contributes one idea to the facilitator who records it on a flip chart (round robin). Afterwards, a group discussion clarifies and evaluates each idea. Following this discussion, ideas are ranked and discussed again [14]. In 2 days, 26 topics and 188 educational objectives were defined. It was an iterative process between small group and plenary discussion. After the workshop, all educational objectives were harmonised, e.g. sentence structure and use of verbs. To pursue the consensus forming process, a two-step Delphi Survey was conducted subsequently.

2.2. Delphi Survey

The Delphi Method, which originated in 1948, attempts to obtain expert opinion in a systematic manner while the experts

Level 1	Competencies for medical graduates as a whole				
Level 2	Communicative and social competencies in medical education				
Level 3	**5 areas of competencies**				
	1. Doctor-patient-relationship	2. Teamwork	3. personality and professionalism	4. reasoning and decision making	5. social competencies
Level 4	Topics for each area of competencies				
Level 5:	Educational objectives for each topic (operationalised & observable)				

Graph 1. Hierarchy of competencies and educational objectives.

express their opinions anonymously [19]. The survey is normally conducted in a series of two to three rounds of disseminating questionnaires. After each round, results are elicited, tabulated, and fed back to the group. The Delphi Survey is considered complete when there is a convergence of opinion [13].

2.2.1. First round

The first expert panel was recruited from the workshop participants. Twenty-one responses from workshop participants were obtained (70% response rate). A questionnaire was used to rate the importance of educational objectives on a four-point scale (1 = very important; 4 = not important). Experts were asked to indicate whether the objective was comprehensible (binary: yes/no) and they were given the opportunity to suggest alternative phrasings. A specific section of the questionnaire dealt with objectives that occurred in more than one section or were overlapping. Experts were asked to decide whether these objectives should be merged into a new area called "general communication and social competencies".

After participants' evaluations and comments, major revisions of competency areas, topics, and objectives were indicated. A new area "general communication and social competencies" replaced the area "social competencies" and allowed for a reduction of objectives. All objectives were discussed again and if necessary modified by the project leaders. Altogether, the 188 objectives were reduced to 145. For the 20 modified topics at Level 4, a recapitulate sentence was formulated and prefixed to objectives, defining a broader definition of competencies.

2.2.2. Second round

2.2.2.1. Description of expert panel and response rate. Differing from the typical Delphi Technique, the expert panel for the second round was expanded. The experts from the workshop and first round were experts in the field of communication and social competencies. The aim of the consensus statement was to form consensus among those who are in charge of medical education. Therefore, recipients of the second round questionnaire were all members of the Association for Medical Education in German-speaking countries (Gesellschaft für Medizinische Ausbildung, GMA). Workshop participants were asked not to answer the second questionnaire themselves, but to distribute the questionnaire within their scientific associations. This was possible in the German associations for Medical Sociology and Medical Psychology.

Of the approximately 500 members of the GMA (in 2008), 77 completed the questionnaire. 39% of the respondents were female (n = 30), mean age was 48 years (range: 22–82 years). The majority was from Germany, only 3% of each were from Austria and Switzerland. The distribution regarding status and discipline is shown in Table 1.
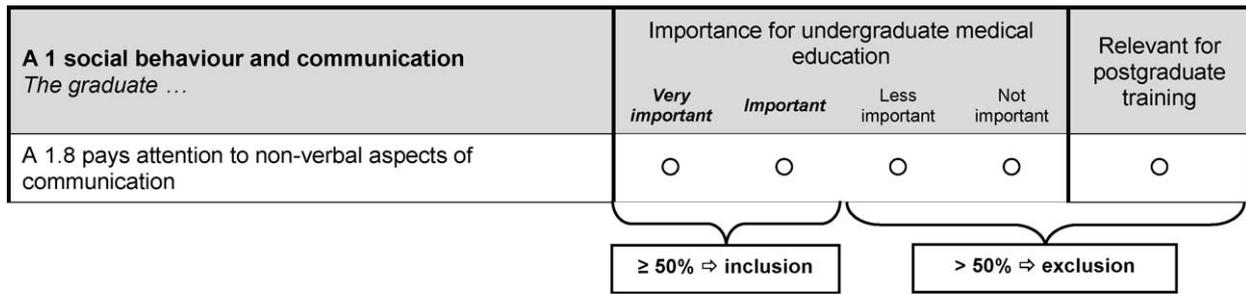
2.2.2.2. Description of instrument and definition of the level of agreement. Recipients were asked to rate the importance of educational objectives on a four-point scale (1 = very important; 4 = not important). They were also asked to indicate whether an objective was relevant for undergraduate training or whether it should be achieved during postgraduate education. For each item, the percentage of respondents was calculated that rated the item as not relevant for undergraduate training and/or gave a low importance score (3 or 4). Items, for which this figure exceeded 50%, were omitted (explanation see Graph 2).

3. Key findings

In summary, agreement with the objectives in the second Delphi round was substantial. Mean values and standard deviation (SD) ranged between 1.1 and 2.7 and 0.3 and 1.0, respectively (SD). The mean value of importance was 76% (range 26–100%). Twelve objectives did not reach the above defined cut-off value (8% of the objectives) and were therefore not included into the final consensus statement, leaving 131 objectives. An overview of the evaluation is shown in Table 2. Objectives that were evaluated as most important and least important are listed in Tables 3 and 4. The complete consensus statement is listed in Appendix B.

Table 1
Distribution of status and discipline.

Status groups		Disciplines	
47%	Professors	18%	General medicine
33%	Staff (research assistants, residents)	17%	Medical psychology/sociology
10%	Students	12%	Internal medicine (including psychosomatics)
5%	Others	21%	Other clinical disciplines (e.g. anaesthesiology, surgery, psychiatry)
Eight persons working in the ambulatory/outpatient sector (multiple selections possible)		3%	Other preclinical disciplines (e.g. biochemistry)
		7%	Theoretical disciplines e.g. pharmacology, medical history, microbiology
		10.5%	Students
		10.5%	Others (e.g. psychologist, educationalist, theologian)

A 1 social behaviour and communication *The graduate …*	Importance for undergraduate medical education				Relevant for postgraduate training
	Very important	*Important*	Less important	Not important	
A 1.8 pays attention to non-verbal aspects of communication	○	○	○	○	○
	≥ 50% ⇨ inclusion		> 50% ⇨ exclusion		

Graph 2. Value of importance for educational objectives.

Table 2

Overview of the Delphi Survey regarding number of objectives and modifications.

Competencies	After one Delphi round	Included without modifications	Modified or merged	Not included[*]	After two Delphi rounds
General competencies	43	32	3	8	35
Doctor–patient relationship	26	22	3	1	25
Teamwork	22	18	–	4	28
Personality and professionalism	31	31	–	–	31
Reasoning and decision making	23	21	1	1	22
Total	145	124	7	14	131

[*] Not included because of lacking scarce importance or overlap.

Table 3

Most important educational objectives.

The graduate	Level of importance (%)	Mean (SD)
- Encounters the patient with respect	100	1.1 (0.3)
- Identifies own strengths, weaknesses and limitations.	100	1.3 (0.4)
- Adapts oneself to the patient's understanding and language	100	1.3 (0.4)
- Pays attention to non-verbal aspects of communication (e.g. gesture, facial expression, posture)	98	1.4 (0.5)
- Respects the others' individuality and subjective perception	98	1.3 (0.5)
- Assesses own norms and values	98	1.4 (0.5)
- Is willing to work together with others	97	1.2 (0.4)

Table 4

Less important educational objectives.

The graduate	Level of importance (%)	Mean (SD)
Names phases of team building (e.g. Tuckman, Francis and Young) and explains them by means of examples	26	2.7 (0.8)
Analyses different situation of communication and interaction by means of communication models (e.g. Watzlawick, Schulz von Thun).	27	2.7 (0.9)
Applies methods of systematic observation of behaviour	34	2.5 (0.9)
Appraises the role of medical councils in the process of political decision making regarding the health care system	36	2.6 (0.9)
Interprets results of systematic observation of behaviour adequate to the social context	38	2.5 (0.9)
Names medical error detection systems and explains them by means of examples	39	2.5 (0.8)
Names different styles of leadership and explains them by means of examples	39	2.5 (0.8)

4. Discussion and conclusion

4.1. Discussion

The aim of the project was to generate consensus on the communication skills and social competencies that medical students should have achieved by the end of their studies. Consensus was achieved by using the Nominal Group Technique and a modified Delphi Technique. During the workshop in Basel and the subsequent two-step survey, more than 100 academics from over 30 different medical schools were included in the consensus forming process. The result was a consensus statement with 19 topics and 131 educational objectives grouped into general and specific competencies.

Compared to the Toronto Consensus Statement and the Kalamazoo Statement [10,11], which highlighted aspects of the medical encounter and the doctor–patient relationship, the Basel Consensus Statement includes a broader range of topics, thus increasing the number of objectives. If one examines only objectives regarding the doctor–patient relationship, the difference between for example the Kalamazoo statement and the Basel Consensus Statement is not that large: 18 objectives versus 24

objectives. Issues such as teamwork, social responsibility, and personal and professional development have been included as well; they are visible expressions of recent developments in the field of communication in healthcare and their implications for the medical profession [31].

Another reason for a high number of objectives is their granularity. We have chosen a rather precise formulation of objectives. Some educators prefer few and broadly defined objectives with low granularity. These educators might use the 19 topics as a basis for their planning. Others prefer high granularity and precisely worded formulations and might use the list of 131 objectives. A third argument refers to the background against which our objectives will be used in many German-speaking universities: some have developed a precisely defined set of 2.000–3.000 objectives to be achieved in lectures and courses during a 6-year curriculum. In this case, the list of 131 objectives might be helpful and would still contribute less than 5% to the existing body of objectives.

The recently published consensus statement on the content of communication curricula in undergraduate medical education by von Fragstein and colleagues not only focuses on clinical communication skills but also describes key content elements for undergraduate communication. They present a "communication curriculum wheel" containing the following domains: respect for others (as core component), theory and evidence of communication skills, tasks and skills of the clinical interview, specific issues, media, and communicating beyond the patient. They also define supporting principles: reflective practice, professionalism, ethics, and law, and evidence based practice [32]. The Fragstein paper states that respect for patients underlies everything. This is well reflected in the opinion of experts that contributed to our study: the most important objective is: "The graduate encounters the patient with respect".

Along this line, the most important objectives centre on attitudes and values, whereas objectives dealing with factual knowledge were rated as less important. This merits special attention because these objectives are more difficult to teach and to assess than knowledge-based objectives. Future training programmes in medical education must try to increase the number and quality of opportunities to achieve objectives in these non-cognitive domains. Among others, well-structured feedback and guided self-reflection are appropriate instruments to accomplish this task.

The Basel Consensus Statement has some limitations. It reflects the opinion of approximately 100 individuals, who participated in the process either as workshop participants or as contributors to the Delphi Study. It may well be that another set of participants might have come to slightly different conclusions. However, this critique is not unique to our consensus paper. Consensus methods in general have been criticised as methods of "last resort". It has even been questioned, if reaching a consensus is a scientific method at all or just a way of structuring group communication. Critical issues are the selection of experts and of the study leaders, the design and method of the consensus forming process like the use of questionnaires, the definition of a sufficient level of agreement, the testing of reliability, validity, and the consequential impact [13,14]. However, considering the wide variety of participants involved, with expertise in different fields of clinical medicine, and in the psychosocial domain, and on all levels of medical education, the consensus method can also be regarded as a major strength of the statement, in that it reflects the requirements of medical practice. Due to its pragmatic nature, the structure and content of the statement might be debatable with regard to conceptual or logical considerations. However, the very same attributes may enhance its usability for medical schools undergoing curriculum reform and development.

Additionally, some of the weaknesses of consensus methods were controlled. To increase validity and to avoid bias, experts were selected from a broad range of disciplines. Special attention was given to include experts from the major clinical disciplines (internal medicine, surgery, general medicine, etc.) and from different health professions and different medical schools. Whenever possible experts were chosen that also held influential positions in their professional organisations to facilitate the subsequent adoption of the consensus statement within the institution. In preparing the workshop, an extensive literature search was performed and the most important recommendations for communication and social skills in medical education were discussed. This preparation seemed important to establish a common background for participants, against which the results of the consensus process could be compared. In using the Nominal Group Technique, we made sure that the process had a structured workflow to reach comparable results among different expert groups and to increase reliability. Modifying the Delphi Technique and including even more experts in the second survey was a further step to increase the validity.

Limited as it may be, it is difficult to imagine an alternative study design to reach consensus about educational outcomes: The Delphi Technique has often been used within education, particularly for curriculum development. NGT proved to be effective for a systematic development of clinical guidelines. The combination of these two methods allowed us to avoid some of the described restrictions of informal consensus development, e.g. dominance by a few strong opinion leaders, difficulties in reaching consensus, and tendencies towards overload.

While the consensus method might still be criticised for a lack of scientific rigour, one should nevertheless bear in mind that the process of developing educational objectives always necessitates value judgements. Another important aspect that speaks in favour of using a consensus method is that the resulting statement should be adopted and used by as many institutions, boards and organisations as possible. To reach this goal it is important to involve stakeholders in the development of the consensus statement and not just in the process of implementation [33].

Considering the scope and number of objectives it might be questioned, whether the statement defines 'minimal standards' or rather 'the ideal student'. It is acknowledged that it would be difficult to find graduates (or even practicing physicians) who have all competencies listed.

This critique should be viewed with the possible users of this statement in mind and the process they are likely to be engaged in: Nowadays, many medical schools (not only) in German-speaking countries see the necessity to improve their curriculum in the area of communication and social competencies. In the process of developing new objectives, their experts usually start by reviewing the existing literature on the curricula that are in use elsewhere, derive a list of educational objectives, and discuss it within their medical faculty. This discussion will result in a selection of objectives that mirror the experts' preferences of a given faculty, and arguments relating to financial or time restrictions. In order to improve these typical processes in curriculum development, the present paper provides a list of objectives that has been developed on the basis of a well-structured and documented procedure—less biased by individual preferences than a selection process that has to be done by a limited number of experts within one faculty only.

4.2. Conclusion

The Basel Consensus Statement provides a comprehensive list of educational objectives in the field of communication and social

competencies for medical students. It is based upon a well-structured and well-defined consensus process comprising Nominal Group Technique and a subsequent two-step Delphi Survey for the evaluation process. It is meant to be used as a starting point of discussion for those experts who develop new undergraduate medical curricula. The development process has proven to be feasible. It therefore can be recommended for the development of guidelines for other areas of competency.

4.3. Practice implications

Even with the Basel Consensus Statement at hand, there is still a lot to do in the process of curriculum development. We do not assume that faculties will copy paste this list as it is, but believe that each faculty has to decide on its own, which objectives it wishes to accomplish—in teaching and in assessment. This process should start with a carefully selected complete list of objectives, like the one provided in this paper. We believe this very process is a prerequisite to achieve ownership within a faculty concerning the communication skills and social competencies that they want their students to possess after 6 years of training. Once, objectives have been chosen, a longitudinal curriculum has to be worked out that defines the succession of content and objectives, matching objectives, didactic methods, and assessment tools.

Acknowledgements

Appendix A. Participants of the Basel workshops (including those who helped in the preparation of the workshop but were not able to come)

Dr. Jutta Begenau (Medcial Sociology, Berlin), Dr. Barbara Dätwyler (Nursing, Bern), Dr. Anja Dieterich (General Medicine, Berlin), Dr. Götz Fabry (Medical Psychology, Freiburg), Annette Fröhmel (Simulated Patient Programme, Berlin), PD DR. Rainer Haak (Dental Medicine, Köln), Prof. Dr. Peter Helmich (General Medicine, Brüggen), Dr. Henrike Hölzer (Simulated Patient Programme, Berlin), Dr. Claudia Kiessling (Reformed Track, Berlin), Juliane Kroker (Medical student, Berlin), Prof. Dr. Wolf Langewitz (Psychosomatics, Basel), Dr. Hildegard Lieverscheidt (Dean's Office for Student Affairs, Bochum), Dr. Andreas Loh (Psychiatry, Freiburg), Isabel Mühlinghaus (Reformed Track, Berlin), Dr. Heiderose Ortwein (Anaesthesiology, Berlin), Dr. Swetlana Philipp (Medical Psychology, Jena), Dr. Karen Pierer (Dean's Office for Student Affairs, Basel), Dr. Susanne Pruskil (General Medicine, Berlin), Dr. Katrin Rockenbauch (Medical Psychology, Leipzig), Simone Scheffer (Reformed Track, Berlin), Dr. Jan Schildmann (Ethics/Palliative care, Bochum), Jochen Schönemann (Psychosomatics, Heidelberg), Dr. Markus Schrauth (Psychosomatics, Tübingen), Sebastian Schubert (Reformed Track, Berlin), Dr. Jobst-Henrik Schultz (Psychosomatics, Heidelberg), Prof. Dr. Ulrich Schwantes (General Medicine, Berlin), PD Dr. Dirk Sommerfeld (Surgery, Hamburg), Dr. Ulrich Stößel (Medical Sociology, Freiburg), Dr. Julijana Verebes (Palliative Care, Graz), Prof. Dr. Ulrich Voderholzer (Psychiatry, Freiburg), Stefanie Wand (Child Psychiatry, Erlangen), Dörte Worthmann (Neurology, Berlin)

Appendix B. Basel Consensus Statement "Communication and social competencies for medical students"

The consensus statement consists of five areas, which are divided into general and specific competencies.

The Graduate[1]...

A	**General communication and social competencies**
A 1	*Social behaviour and communication*: The Graduate adapts her social behaviour and communication to different social contexts and communication partners.
A 1.1	Shapes a conversation from beginning to end with regard to structure (e.g. using techniques such as recapitulation, formulation of communication bridges, time-management, formation of goal-oriented sentences, closed-loop communication in acute situations).
A 1.2	Shapes a conversation from beginning to end with regard to content (e.g. relays information clearly and understandably, ensures understanding, advocates her viewpoint, verbalises emotional content).
A 1.3	Recognises difficult situations (e.g. crying, silence, pauses, interruptions, aggression) and communication breakdowns and deals with them constructively.
A 1.4	Uses techniques of active listening (e.g. paraphrasing, verbalising, non-verbal techniques).
A 1.5	Uses different types of questions (e.g. open, closed) according to the situation.
A 1.6	Uses feedback rules (e.g. first-person-statements).
A 1.7	Analyses conversational situations with others (metacommunication).
A 1.8	Takes nonverbal aspects of communication (e.g. gestures, facial expressions, posture) into account.
A 1.9	Identifies people or institutions that can help to solve problems according to the situation.
A 1.10	Specifies strategies to solve conflicts (e.g. feedback on perception, impact, wishes).
A 2	*Social responsibility*: The Graduate designs her actions with social responsibility towards patients and society
A 2.1	Explains societal cause and effect relationships on health and disease.
A 2.2	Specifies medical situations, in which cultural, social and religious aspects typically play an important role.
A 2.3	Evaluates economic consequences and conditions of her actions as a physician.
A 2.4	Classifies the actions of physicians within the general framework of society.
A 2.5	Distinguishes between different norm and value systems in society and relates these to her actions as a physician.
A 2.6	Explains social processes of stigmatisation and their effects on health and disease.
A 2.7	Appraises societal expectations of the medical profession.
A 2.8	Discusses the extent and boundaries of the responsibility of physicians.
A 2.9	Identifies typical ethical dilemmas in the actions of physicians (e.g. medically assisted suicide, patients unable to give consent) and discusses approaches of resolution.
A 2.10	Discusses concrete incidents from her own medical studies (e.g. beginning of life, end of life, intensive care) with respect to ethical principles and professional norms.
A 3	*Self-reflection*: The Graduate constantly develops her ability to self-reflect
A 3.1	Recognises her own emotions (e.g. insecurity, sympathy/antipathy, eroticism, attractiveness) in relation to others (e.g. patients, colleagues).
A 3.2	Identifies her own strengths, weaknesses and limitations.
A 3.3	Addresses her own wishes, fears and goals in an appropriate manner.
A 3.4	Assesses her own norms and values.
A 3.5	Describes and assesses her own behaviour critically and conceives alternative ways of behaviour.
A 3.6	Assesses her own stereotypes and social prejudices and is aware that her own actions are influenced by personal experience, the current situation, her knowledge and her own interests.
A 3.7	Reflects on her attitude to her work (e.g. cynicism, satisfaction).

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[1] Two thirds of medical students are women, at least in Germany, Austria and Switzerland. Therefore, the feminine form has been taken throughout the statement. Male graduates are of course addressed equally.

A 3.8 Respects the individuality and the subjective perception of others.

A 3.9 Respects other health professionals in their expertise and areas of responsibility.

A 4 *Dealing with errors*: The Graduate demonstrates an appropriate way of dealing with her own errors and those of others

A 4.1 Addresses her own errors appropriately and analyses them.

A 4.2 Approaches others about their errors or misbehaviour in an appropriate manner and offers assistance.

A 4.3 Addresses and analyses imminent errors appropriately: e.g. refrains from personally allocating blame and instead looks for ways or conditions to avoid errors, looks for solutions rather than cultivating problems, develops collective mental models for difficult situations.

A 4.4 Describes the basic principles behind the development of errors.

A 4.5 Specifies typical errors in decision-making processes (e.g. neglecting existing medical information and patient needs; premature closure of the decision process)

A 4.6 Specifies typical sources of errors in the hospital (e.g. insufficient interprofessional communication and teamwork, inadequate processes and routines in medical care)

B **Specific competences**

B 1 **Doctor–patient relationship**

B 1.1 *Communication in the doctor–patient relationship*: The Graduate orients her communication behaviour along the actual concerns and the personality of the patient

B 1.1.1 Addresses the concerns of the patient in collaboration with the patient.

B 1.1.2 Adapts herself to the level of understanding and language of the patient.

B 1.1.3 Encourages the patient to express her feelings and takes these into consideration.

B 1.1.4 Ensures that the patient feels attended to

B 1.1.5 Adapts the plan to patients resources and strengths

B 1.1.6 Gives information to and about the patient in a meaningful and timely manner with patient consent (orally and written).

B 1.2 *Shaping of relationship*: The Graduate involves the patient in the interaction using a patient-centred approach

B 1.2.1 Uses techniques to build up and maintain an empathetic relationship.

B 1.2.2 Recognises the patient as a partner in the shaping of the relationship.

B 1.2.3 Identifies patient expectations with respect to the role of physician and patient.

B 1.2.4 Orients herself to the needs and capabilities of the patient with respect to information, autonomy, truth and responsibility.

B 1.2.5 Describes the different elements of a patient history (history of the illness, history of the doctor–patient relationship, history of the patient)

B 1.2.6 Takes a biographical history appropriate for the context and integrates the current complaint into the patient's life-story.

B 1.2.7 Includes somatic, mental and social elements in the care of the patient.

B 1.2.8 Relates to the patient respectfully.

B 1.2.9 Uses techniques which facilitate the continuation of the doctor–patient relationship (e.g. a closing question about the patient's satisfaction).

B 1.2.10 Explains her rights to the patient in a patient-centred manner.

B 1.2.11 Inquires about the patient's level of medical knowledge about her illness.

B 1.2.12 Finds out how much information the patient requires.

B 1.3 *Subjective realities*: The Graduate considers the patient's and her own subjective reality in engaging in a doctor–patient relationship

B 1.3.1 Responds to the patient's subjective theories of illness and contrasts and integrates these into her own theories of illness as a physician.

B 1.3.2 Perceives divergences between her own values and interests and those of the patient and takes these into consideration.

B1.3.3 Identifies her own opinion clearly as such to the patient.

B 1.4 *Theoretical models of the doctor–patient relationship*: The Graduate evaluates factors that have been shown to influence the doctor–patient relationship

B 1.4.1 Describes models of the doctor–patient relationship (e.g. transference/counter transference, reciprocity, inter-subjectivity, expectation/experience).

B 1.4.2 Describes the relationship between doctor and patient with regard to symmetry and asymmetry.

B 1.4.3 Evaluates different models to explain health and illness.

B 2 **Teamwork**

B 2.1 *Team building and working in a team*: The Graduate adapts her behaviour to different phases of team building and efficiently shapes her working style to contribute to a successful team

B 2.1.1 Develops and documents shared goals, tasks, operational procedures and group rules in a team.

B 2.1.2 Clarifies and documents responsibilities.

B 2.1.3 Takes on responsibility in the team.

B 2.1.4 Is willing to work with others.

B 2.1.5 Lists factors both supporting and inhibiting teamwork.

B 2.1.6 Evaluate collaboration during debriefing, and bring tasks to a close.

B 2.1.7 Describes and reflects her own role in the team (e.g. team vs. team-player)

B 2.1.8 Perceives and respects different points of view of team members.

B 2.1.9 Contributes to a positive working atmosphere: e.g. supports other team members, trust in others' competencies, sees and mentions the positive side of unpleasant things, is dependable, integrates new members, works goal-oriented, celebrates and esteems the success of the team.

B 2.1.10 Specifies and appreciates her own potential with regard to the team.

B 2.1.11 Identifies her own interests and distinguishes these from the team goals.

B 2.1.12 Is aware of her own impact on others and takes this into account accordingly.

B 2.1.13 Analyses team work in the context of the conditions which present themselves, understands interdependence within the team and between teams and balances individual and team tasks (Theme-Centred Interaction (TCI) or comparative models of analysis)

B 2.2 *Leadership*: The Graduate shows basic competencies in leadership skills and supports the development and maintenance of the teamwork with her behaviour

B 2.2.1 gives clear instructions.

B 2.2.2 delegates tasks and responsibilities.

B 2.2.3 facilitates the formation of opinions in the group.

B 2.2.4 ensures that all relevant information is available.

B 2.2.5 encourages team members to voice differing opinions and rewards this.

B 3 **Personal and Professional Development**

B 3.1 *Roles and identity relating to herself*: The Graduate evaluates contents and limitations of her duties as a physician

B 3.1.1 describes and fulfils the duties of a physician (e.g. medical expert, manager, lecturer) appropriate to her level of education.

B 3.1.2 describes the limitations of her duties as a physician (e.g. legal limitations).

B 3.1.3 Considers cultural, social and religious aspects during her actions as a physician.

B 3.1.4 Specifies and explains possibilities to work on role ambiguity (e.g. supervision).

B 3.1.5 Takes on, shares and hands over responsibility according to her level of education.

B 3.1.6 Deals with uncertainty appropriate to her level of education.

B 3.2 *Management and self-organisation*: The Graduate uses effective and efficient time management, learning, and teaching strategies

B 3.2.1 Describes strategies and techniques (e.g. prioritisation, delegation) for time management and uses these in her job as a physician.

B 3.2.2 Analyses her own time management and reflects on its strengths and weaknesses.

B 3.2.3 Sets up a schedule for specified tasks (e.g. self study, exam preparation, presenting a patient, difficult conversation with a patient).

B 3.2.4 Presents expert knowledge and scientific data effectively (e.g. giving a presentation, presenting a patient, speaking in front of a group).

B 3.2.5 Shares her knowledge appropriately

B 3.2.6 Analyses her own learning strategies and their strengths and weaknesses.

B 3.2.7 Establishes for herself appropriate learning strategies for life-long learning and uses these.

B 3.2.8 Uses resources for self study (textbooks, journals, databases).

B 3.2.9 Discusses scientific texts critically.

B 3.2.10 Documents and evaluates her own learning progress (e.g. in the framework of a portfolio).

B 3.2.11 Describes and prioritises her own learning needs.

B 3.3 *Self-care*: The Graduate describes signs of work overload and uses strategies to reduce workload

B 3.3.1 Describes the signs of work overload (e.g. sleeping disorders/insomnia) in herself and others.

B 3.3.2 Specifies different possibilities to get help for work-related (e.g. student advisory services, Balint groups, supervision) and for personal problems and stress (e.g. psychotherapeutic help centres, harassment at work ombudsman).

B 3.3.3   Uses strategies to reduce work-related stress (coping strategies, Balint group, supervision).

B 3.3.4   Evaluates her own coping strategies regarding aspects relevant to health.

B 3.3.5   Requests help or support effectively and timely.

B 3.3.6   Describes important aspects and regulations of occupational health and safety relevant for her field of work.

B 3.3.7   Claims her rights (e.g. breaks, holidays, sick leave).

B 3.3.8   Ensures an appropriate balance between work and recreation.

B 3.3.9   Does not allow her own health status to put patients and others at risk.

B 3.3.10   Is able to appropriately detach herself from her emotions when the situation requires her to do so (doctor–patient relationship, emotionally, degree of suffering of the patient, demanding patient).

B 3.4   *Integration into professional framework (socialisation)*: The Graduate describes and respects the professional framework of physicians' actions and the core values of human collaboration

B 3.4.1   Describes and reflects on the professional framework of physicians' actions (e.g. national regulations, guidelines, good clinical practice) and complies with them according to her level of education.

B 3.4.2   Complies with the core values of human collaboration (e.g. punctuality, commitment, cleanliness, listening, hearing somebody out, etc.) in her work.

B 3.4.3   describes professional rituals or norms in medicine (e.g. sequence of events on ward rounds, wearing a white coat).

B 3.4.4   Seeks and creates, if necessary on her own initiative, the conversation with other health professionals.

B 4   **Reasoning and decision-making**

B 4.1   *Values and norms in decision-making*: The Graduate considers different values and norms that enter into the decision-making process.

B 4.1.1   Describes the legal foundations of a decision.

B 4.1.2   Discusses own values and norms relevant to decision-making.

B 4.1.3   Elicits values and norms relevant to decision-making of patients or other persons concerned.

B 4.2   *Contextual conditions*: The Graduate integrates prerequisites and potential consequences into her reasoning and decision-making.

B 4.2.1   Explains the responsibilities of the decision-making process.

B 4.2.2   Offers the patient the option to include other people in the decision-making process.

B 4.2.3   Analyses the interaction between the decision and the patient's social environment.

B 4.2.4   Identifies factors in health care politics and economics which influence decision-making (e.g. resources).

B 4.2.5   Clarifies to the patient the timing and organisational framework for decision-making.

B 4.3   *Uncertainty*: The Graduate respects uncertainty as an integral part of reasoning and decision-making

B 4.3.1   Explains to patient which information is necessary to minimise uncertainty in the decision-making process.

B 4.3.2   Discusses with patient the spectrum of possible consequences of a decision.

B 4.3.3   Talks openly to the patient about uncertainty.

B 4.3.4   Regularly reassesses her decisions and revises them if necessary.

B 4.3.5   Accepts uncertainty when making a decision and formulates her ways of dealing with it.

B 4.4   *Responsibilities in the decision-making process*: The Graduate considers the extent to which individuals are responsible in the reasoning and decision-making process.

B 4.4.1   Ascertains how much responsibility the patient is willing and able to take for the decision.

B 4.4.2   Offers the patient active participation in decision-making and supports it.

B 4.4.3   Verbalises to patient her own role in a decision-making situation.

B 4.4.4   Identifies the role of a physician in the decision-making process in an inter-professional team.

B 4.4.5   discusses decisions with colleagues, patients and their relatives.

B 4.5   *Information*: The Graduate effectively collects and communicates the relevant information for the reasoning and decision-making process

B 4.5.1   Outlines to the patient the advantages, disadvantages and the expected success of medical measures (e.g. with absolute frequencies).

B 4.5.2   Explains to the patient the consequences of refusing diagnostic and therapeutic measures.

B 4.5.3   Finds out about the relevant psychological and social resources of the patient for making a decision.

References

[1] General Medical Council. Tomorrow's doctors. Recommendations on undergraduate medical education. General Medical Council; 2003.

[2] Frank JR, editor. The CanMEDS physician competency framework. Better standards. Better physicians. Better care. Ottawa: The Royal College of Physicians and Surgeons of Canada; 2005.

[3] ACGME. Outcome project. Enhancing residency education through outcome assessment. http://www.acgme.org/outcome/comp/GeneralCompetencies-Standards21307.pdf [accessed 19.1.2009].

[4] Metz JCM, Verbeek-Weel AMM, Huisjes HJ, editors. Blueprint 2001. Training of doctors in the Netherlands. http://www.nfu.nl/fileadmin/documents/BLUEPRINT-Training-of-doctors.pdf [accessed 19.1.2009].

[5] Berliner Kommunique 2003. "Den Europäischen Hochschulraum verwirklichen" Kommuniqué der Konferenz der europäischen Hochschulministerinnen und -minister am 19. September 2003 in Berlin http://www.bmbf.de/de/3336.php [accessed 19.1.2009].

[6] Working Group under a Mandate of the Joint Commission of the Swiss Medical Schools. Swiss catalogue of learning objectives for undergraduate medical training – June 2008. http://sclo.smifk.ch/ [accessed 19.1.2009].

[7] Cumming A, Ross M. On behalf of the Tuning Project (Medicine) Steering Group and Task Force 1 of the MEDINE Thematic Network. The tuning learning outcomes/competences for primary medical degrees in Europe. Edinburgh; 2008. http://www.bris.ac.uk/medine/docs/competences.pdf [accessed 19.1.2009].

[8] BVMD. Kerncurriculum für die medizinische Ausbildung in Deutschland. Ein Vorschlag der Medizinstudierenden Deutschlands; 2006. http://bvmd.de/fileadmin/SCOME/Kerncurriculum/Kerncurriculum.pdf [accessed 19.1.2009].

[9] IMFSA, EMSA. European core curriculum – the students' perspective. Bristol (UK); 2006. http://bvmd.de/fileadmin/SCOME/Kerncurriculum/EuropeanCor-eCurriculum.pdf [accessed 19.1.2009].

[10] Simpson M, Buchman R, Stewart M, Maguire P, Lipkin M, Novack D, et al. Doctor–patient communication: the Toronto consensus statement. Brit Med J 1991;303:1385–7.

[11] Participants in the Bayer–Fetzer conference on physician–patient communication in medical education. Essential elements of communication in medical encounters: the Kalamazoo consensus statement. Acad Med 2001;76:390–3.

[12] Hammick M, Haig A. The Best Evidence Medical Education Collaboration: processes, products and principles. Clin Teach 2007;4:42–5.

[13] Fink A, Kosecoff J, Chassin M, Brook RH. Consensus methods: characteristics and guidelines for use. Am J Public Health 1984;74(9):979–83.

[14] Jones J, Hunter D. Qualitative research: consensus methods for medical and health services research. Brit Med J 1995;311:376–80.

[15] Murphy MK, Black NA, Lamping DL, McKee CM, Sanderson CFB, Askham J, et al. Consensus development methods, and their use in clinical guideline development. Health Technol Asses 1998;2(3).

[16] Graham B, Regehr G, Wright JG. Delphi as a method for diagnostic criteria. J Clin Epidemiol 2003;56:1150–6.

[17] AWMF. Erarbeitung von Leitlinien für Diagnostik und Therapie. Methodische Empfehlungen ("Leitlinie für Leitlinien", Stand Dez. 2004). www.awmf.de [accessed 19.1.2009].

[18] AWMF. Deutsches Instrument zur methodischen Leitlinien-Bewertung (DELBI) Fassung 2005/2006. www.delbi.de [accessed 19.1.2009].

[19] Dalkey NC. The Delphi method: an experimental study of group opinion. Prepared for United States Air Force Project RAND. Santa Monica; 1969.

[20] Aichholzer G. Das ExpertInnen-Delphi: Methodische Grundlagen und Anwendungsfeld "Technology Foresight" ITA Manuskript (ITA-02-01); 2002.

[21] Bowler N. The Delphi technique. Nurs Stand 1999;13:32–6.

[22] De Villiers MR, de Villiers PJT, Kent AP. The Delphi technique in health science education. Med Teach 2005;27:639–43.

[23] Häder M, Rexroth M. Erfassung kognitiver Aspekte des Antwortverhaltens in einer Delphi-Studie. ZUMA Arbeitsbericht 98/06. Mannheim; 1998.

[24] Häder M. Die Expertenauswahl bei Delphi-Befragungen. ZUMA How-To-Reihe Nr. 5. Mannheim; 2000.

[25] Stewart J. Is the Delphi technique a qualitative method? Med Educ 2001;35:922–3.

[26] Lloyd-Jones G, Fowell S, Bligh JG. The use of the nominal group technique as an evaluation tool in medical undergraduate education. Med Educ 1999;33:8–13.

[27] Dunham RB. Nomina group technique. A users' guide. University of Wisconsin ohne Jahr. http://instruction.bus.wisc.edu/obdemo/readings/ngt.html [accessed 19.1.2009].

[28] Bloom BS, Krathwohl DR. Taxonomy of educational objectives book 1: cognitive domain. Boston: Addison Wesley Publishing Company; 1984.

[29] Isaacs G. Bloom's taxonomy of educational objectives. Australia: Teaching and Educational Development Institute, University of Queensland; 1996 http://www.tedi.uq.edu.au/downloads/Bloom.pdf [accessed 19.1.2009].

[30] Krathwohl DR. A revision of Bloom's taxonomy: an overview. Theor Pract 2002;41:212–8.

[31] Bensing J, van Dulmen S, Bensing KT, et al. Communication in context: new directions in communication research. Patient Educ Couns 2003;50:27–32.

[32] Von Fragstein M, Silverman J, Cushing A, Quilligan S, Salisbury H, Wiskin C. UK consensus statement on the content of communication curricula in undergraduate medical education. Med Educ 2008;42:1100–7.

[33] Gale R, Grant J. AMEE medical education guide no. 10: managing change in a medical context: guidelines for action. Med Teach 1997;9:239–49.