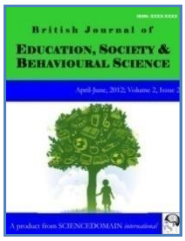

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Portfolios to Train Interactions between Patients and Doctors-to-be: Making It Work

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Authors' contributions

This work was carried out in collaboration between all authors. Author CD first introduced the portfolio idea in her own department and developed the first version of the Erlangen Portfolio. Author CD drafted parts of the manuscript, did the literature search, developed the structure of the publication, and coordinated the author group. Author CS is currently responsible for the portfolio in undergraduate training in Erlangen, further developed the structure of the Erlangen Portfolio, and is also responsible for tutor training. Author CS collected the data from the students and drafted parts of the methods and results sections. Author KL was involved with the development of the portfolio concerning its structure, contents, and evaluation system. She drafted parts of the manuscript in the methods and results sections. Author EG is responsible for integrating the portfolio instead of a written exam in undergraduate education and for developing the time-frame and tutor system that was needed to realize this project. Author EG drafted parts of the introduction and the discussion. All authors read and approved the final manuscript.

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ABSTRACT

Aims: Portfolios are used more and more in medical education, especially in Western countries, and lately, also in the Middle East and Asia. This is the first portfolio to be included in the curriculum of preclinical medical education in Germany. The aim of the study is to present the developed portfolio as well as data on the acceptance and effort by the students, time needs of staff, and on the assessment.
Study Design: Cohort study.

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Place and Duration of Study: Department of Psychiatry and Psychotherapy, Friedrich-Alexander-University Erlangen-Nuremberg, Medical Psychology and Medical Sociology, between October 2011 and July 2012.
Methodology: The Erlangen Portfolio was developed to teach doctors-to-be interaction with patients and reflective abilities in the context of curricular education in Medical Psychology and Medical Sociology. An evaluation system was developed; the mandatory portfolio constitutes a substitute for a classical written exam. It is anchored in the time-line of the 2nd to the 4th semesters of the medical curriculum at the Friedrich-Alexander-University Erlangen-Nuremberg. N = 136 students were surveyed with written questionnaires in July 2012 after completing their portfolios. Quantitative data were collected, and 161 portfolios of this cohort were analyzed concerning success according to the assessment criteria.
Results: The majority of the students had a positive attitude toward the portfolio after completion (72%) and preferred this competence-based assessment over a written exam (86%). On average, it took 23 hours for a student to develop a portfolio. The assessment showed that 15% of the students passed right away and 85% needed to improve their portfolios after the first evaluation. Reflecting on one's own communication, according to Roger's dimensions of conversation, required the most improvement. For the majority of the students, the anamnestic interview was the most difficult part of the portfolio.
Conclusions: Even though it is time-consuming, data and feedback from students suggest that portfolios are a teaching method for undergraduate medical students that is accepted, assessable, and useful in the field of curricular medical education.

Keywords: Teaching materials; teaching; problem-based learning; education; students, medical; students, health occupations; schools, medical; academic medical centers.

1. INTRODUCTION

1.1 Problem

According to a large German journal [1,2], doctors are frequently perceived as "speechless in the consultation room" and "surprisingly often unprofessional" with deficits in listening and in communication [3]. It is not surprising that this can lead to incorrect diagnoses and inappropriate treatments.

As instructors of medical students, we want to counteract this shortcoming by training doctors-to-be to communicate with patients and by promoting their capacity to listen and to reflect. Using innovative learning methods during their training, the students are urged to independently take at least one complete anamnesis and conduct an interview regarding the patient's health behavior, to document the sessions, and to analyze their own strengths and weaknesses in these communication situations. For this, a portfolio was developed that has been incorporated into the curriculum from the 2nd to the 4th semester of medical studies.

1.2 What is a Portfolio?

Portfolios are a method of competence-based learning. The portfolio idea originated in the field of art, where there is a long tradition of collecting one's works in a "folder" [4]. Depending on the structure and requirements, they consist of proof and various experiences

from the student's work in the sense of a collection. Portfolios are conceived as a process method, which documents the learning of a given skill over a long period of time and thus, finally, enables evaluation with respect to the level of this skill. In the context of medical education, reflective ability is often selected as the target competence. Portfolios are based on the assumption that people learn from experience. This means that the student is confronted with various learning situations. The student's experiences in these situations are documented and reflected upon, for example, with the aid of guiding questions. Portfolios are compiled by the students themselves and may be recorded on paper or digitally. Portfolios can consist of both strictly pre-structured material and open material guided by few instructions [5].

1.3 The Goal of Portfolios

The foremost goal of portfolios is that the students learn from experience by developing the capacity for reflection, which is considered a core competence of doctors. Innovative methods are required to teach this competence [6]. Besides the ability to reflect [7], further goals of portfolios are defined by instructors when they set the portfolio requirements, for example, the development of decision-making that is based on ethical principles [8], the training of specific communication skills [9,10], self-assessment skills [11] or taking specific cultural expectations into account in medical interactions [12].

1.4 International Experience

Portfolios have been used internationally for about 20 years in the training of doctors. The number of publications, including experience reports, evaluation systems, student attitudes, and early reviews have been increasing for about 10 years. The main areas of use are in Europe, especially Holland and Great Britain [9,13-16], in North America (the US and Canada: see [10,17,18]), and Australia [8,19]. Current trends show a spread to the Middle East (Iran: [20]) and Asia (Taiwan: [12]). Portfolios are used in both the preclinical and clinical segments of training but also in postgraduate medical education [21].

1.5 The Situation in Germany

In Germany, the portfolio method has hardly been used in medical training to date. If at all, portfolios are used in the later periods of medical studies. The University of Witten-Herdecke uses a portfolio as an accompaniment to practical training in family medicine [22-24]. At the University of Erlangen-Nuremberg, a portfolio is used as documentation of the "practical year," the final year of medical studies, especially in internal medicine [25-27]. "Portfolio-based testing is currently […] being introduced" at the University of Cologne [28]. In contrast to the University of Leipzig, where portfolios were used once in the clinical training period in a voluntary course [29, 30], This work presents the first effort in Germany to integrate portfolios into pre-clinical training as a mandatory part of curricular teaching (course: Medical Psychology and Medical Sociology) and to use this as complete proof of learning (other written or oral forms of examination have been eliminated).

1.6 Anchoring in the Legal Framework

The Approbation Ordinance for Doctors [31] in Germany requires mandatory instruction in "Medical Psychology and Medical Sociology" in the preclinical segment (= the first two years of study) of medical studies in the form of lectures, courses, and seminars. The examination

contents are set forth in a topic catalogue and also include knowledge and skills in conducting interviews with patients. In the Amendment to the Approbation Ordinance of 2012 [31], it is explicitly stated that interview competence may be examined in all segments of the training of doctors. The teaching tool presented here is used as an opportunity to combine skills-training in conducting interviews and self-reflection on these experiences with the portfolio method and to use this as an examination method in the course: Training patient interviews in Medical Psychology and Medical Sociology. Portfolios are explicitly anchored in the study ordinances at several universities in Germany, for example, in Cologne [28]. Outside of Germany, the literature reports positive experiences with portfolios, especially in the preclinical segment, sometimes under the assumption that the student has more time resources in this study period than in the clinical segment [13,32]. According to a systematic review [32], the integration of portfolios into the (mandatory) curriculum is said to be an essential criterion for success.

1.7 What is Important in Introducing the Method?

Introducing portfolios into the curriculum requires several months of preparation for the development of the portfolio contents and structure and for the preparation of those "affected" (i.e., the faculty), as an American team forcefully described [33]. It must be expected that this new instrument will not be immediately accepted by the students – it requires a considerable amount of time. Also, the "affected colleagues" in the faculty need to be informed of the goals of the portfolio and its importance, and they must be convinced and trained. Ideally, such an innovative teaching method should not be introduced as a top-down strategy, but rather cooperatively by a team of instructors. A systematic review [32] showed that there are concerning learning success "especially effectively structured portfolios." These assume, for example: a) a good introduction (clear information for students concerning goals and required contents), b) guidance by trained mentors, c) clear instructions that still leave room for creativity, d) user-friendliness and time-economy. Regardless of whether hand-written or digital, a flexible format without too many stipulated details appears to be advantageous so that users don't feel burdened by bureaucracy and can still integrate their individual learning experiences [5]. This last point is a decisive factor. Students, especially when they first begin training, need sufficient experience and "material" for a portfolio [34]. Here, the instructors must offer opportunities for the students to gain experience or to show them where and how experience/material can be collected. Otherwise the satisfaction with such a teaching method will remain low (over years) [35]. In addition to the success factors already cited, it is also important that the portfolio will be evaluated, the process by which this method achieves the required seriousness [9, 32,34]. Several authors have also underlined preclinical training as a favorable time to implement the portfolio [13,32].

1.8 What is Special about this Article?

Although there are already international publications reporting on students' experiences with portfolios, there are several innovative aspects covered in the present article. Two unique contributions made by the present article are the combination of practicing communication in two doctor-patient interviews and reflection on one's own communication behavior. The following are also new:

- This is the first use of portfolios in the preclinical curriculum of medicine in Germany (course: Training patient interviews in Medical Psychology and Medical Sociology).

- With this project (the portfolio), students are led for the first and only (!) time in regular studies of medicine in Germany to learn a basic skill, to document it, and at the same time, to reflect upon this.
- This is the only implemented process-developmental and competence-based examination form in the preclinical training segment of studies in medicine in Germany.

2. MATERIALS AND METHODS

2.1 The Developed Portfolio

2.1.1 Contents and time schedule in the curriculum

The Erlanger Portfolio comprises four segments: two patient interviews conducted by the student and reflections on the interviews, the experiences gained during practical care training and reflections upon these experiences, and finally a summary, with a final self-evaluation of communication skills. The portfolio template used is attached to this article (Appendix 1).

The time schedule for the portfolio in medical training is shown in Fig. 1: At the end of the second semester, all students attend an introductory session, in which they are informed about the goals and contents of the portfolio and are given the required documents. The main part of work on the portfolio is performed during the second year of medical training because the students by then have already had their initial experiences but are not in immediate preparation for interim examinations.

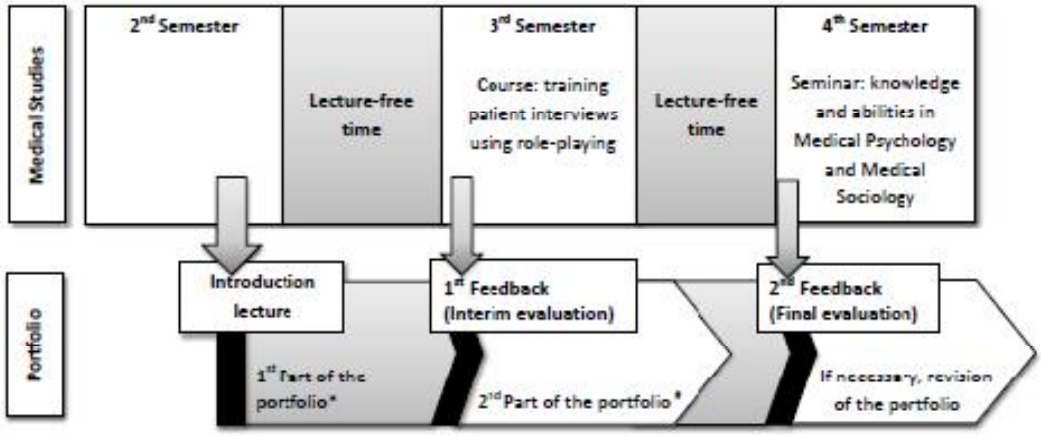

Fig. 1. Time-line of the Erlangen Portfolioin undergraduate medical education in Germany

Introducing the portfolio at this point in time was evaluated as producing the best effects in two reviews [13,32]. During the lecture-free period between the 2nd and 3rd semesters, the students conduct a pre-structured anamnestic interview with a chronically ill patient, whom they select and contact. The students reflect upon this interview using the guiding questions provided with respect to the variables that underlie communication skills. The focus is on basic skills such as beginning the interview and recording the data, but also includes

complex concepts such as empathy and directivity. Furthermore, three sociological models are to be elicited and applied to the patient's everyday life (Karasek's Job-Stress-Model [36], Siegrist's Model of Gratification Crisis [37], and Social Support [38]). The competence of integrating theoretical models into health promotion was also included in a portfolio for undergraduate medical students in Belgium as a competency goal [39].

In the first half of the 3rd semester, the students receive initial feedback (Interim Evaluation), designed to assist them in drafting the parts of the portfolio that will follow. In parallel, in the 3rd semester, a wide variety of doctor-patient-interview situations is practiced in role-plays and reflected upon during the course: Training patient interviews in Medical Psychology and Medical Sociology. Experience from the portfolio may be used in the course and vice versa because the students independently conduct a second interview during the 3rd semester for the portfolio on health behavior. The theoretical background is the Transtheoretical Model of Change (TTM) by Prochaska et al. [40,41]. In conclusion, the students reflect on their experience in practical care training, whereby Wiswede's role analysis [42] is performed. In the summary, they reflect upon the development of their communication skills and define their learning goals for the future.

The students submit their completed portfolio in the first few weeks of the lecture-free period between the 3rd and 4th semester and get it back in the beginning of the 4th semester. Necessary revisions can be incorporated during the 4th semester. The need for revision of the portfolio does not lead to any loss of time in their studies. Overall, the portfolio requires that the student invest a period of 9 months, or if revision is needed, a maximum of one year.

2.1.2 Evaluation system

The portfolio is evaluated according to precisely defined criteria because a clear evaluation structure and support from a mentor are considered prerequisites for success [32]. For transparency, the students are given the assessment-criteria catalogue (Appendix 2). Overall, there are 9 evaluation criteria: (1) *Formal Aspects*, (2) *Logical Consistency*, (3) *Wealth of Detail*, (4) *Applicationof Theoretical Models*, (5) *One's Own Strengths*, (6) *Learning Goals*, (7) *Interview Dimensions according to Rogers*, (8) *Summarizing Reflection*, (9) *Authenticity*. The criteria are applied to four areas of content: (1) *Anamnestic Interview*, (2) *Health-behavior Interview*, (3)*Experience in practical care training*, (4) *Summary*. The raters are given definitions and anchor examples for the three possible evaluation levels for each criterion: I) "Very good," II) "Requirements fulfilled on average," III) "Deficits requiring revision." The evaluation is undertaken by a team of one scientific assistant and one student tutor. The evaluation is positive when all sections are given a rating of at least "Requirements fulfilled on average." A feedback sheet tells the student about the requirements that were fulfilled and the areas that are in need of revision. In addition, the student can contact the tutors via e-mail concerning questions or make an appointment with the appropriate correction team (instructor and tutor) before submitting the revision. An appointment is mandatory if a second revision is necessary.

Unlike a written examination, the portfolio is not designed to elicit acquired knowledge point-by-point, but serves to support continuous gains in knowledge and competence [32]. Revisions are not considered to be indicators of deficient performance but rather as opportunities for the student to take their learning to a deeper level. The students are explicitly told that reflection constitutes a learning process, which means that reporting errors or difficulties in interviewing patients is expressly desired.

2.1.3 Organization of the portfolio

An instructor is entrusted with the organizational management of the portfolio. The instructor is responsible for ensuring the friction-free scheduling and updating of all materials. The coordination of all staff members who are involved, including the training and supervision of tutors, is an essential part of the assignment. Regular team meetings serve to harmonize the evaluation.

2.1.4 Role of the tutors

For the Erlanger Portfolio, three tutors (bachelors in psychology) were hired for 9 hours/week each, paid from tuition fees. Tutors are expected to administrate the submitted portfolios, the return of the portfolios to the students, and student communication. After thorough training, the tutors also perform pre-screenings of the submitted portfolios and write up preliminary evaluation sheets with feedback, based on the criteria described above. The final evaluation is made in cooperation between the tutor and the corresponding instructor. Feedback discussions are conducted by the correction team.

2.2 Evaluation Method

2.2.1 Student Questionnaire

The method of evaluating the portfolio presented here was conducted at the end of the 4th semester at the University of Erlangen-Nuremberg (Germany) in a lecture held in July 2012, after all students had completed their portfolios. Attendance at this final lecture was mandatory. Of the 161 students who had completed the portfolio, 136 students (84.5%) were surveyed. The questionnaire consisted of 10 questions. A 5-point Likert scale [43] with the following response categories was used for the eight closed questions: “agree completely,” “agree in part,” “so-so,” “hardly agree,” and “don’t agree at all.” The final open questions concerned information about the time required to prepare the portfolio and other comments from the students. Descriptive statistical methods were used for the evaluation.

2.2.2 Additional Data

In addition, data on the time required by the staff were analyzed. The assessment data of the surveyed portfolio cohort were analyzed with respect to performance and frequency/reasons for revision.

3. RESULTS AND DISCUSSION

The Erlanger Portfolio formally corresponds to the criteria for successful portfolios cited in the review by Driessen and colleagues [32]: transparent goals and processes, integration into the curriculum, flexibility in preparation, and personal supervision by tutors.

3.1 Results of the Students’ Evaluations

Of the 136 medical students who completed the questionnaire, 84 were women (61.8%). Three quarters of the students were of the opinion that the portfolio is generally a “good idea” (Table 1). 86% preferred this method of performance testing over other exam formats. The greatest approval (90%) was for the possibility of working on the portfolio during the

lecture-free periods. However, 20% of the students had difficulties finding suitable patients for the interviews. The comprehensibility of the guiding questions in the portfolio was rated positively by the majority: 12% of the students had problems with the wording. For one quarter of the students surveyed, the accompanying course in the 3rd semester on doctor-patient communication was helpful for creating the portfolio; for half of the students, it was not. With respect to the evaluation of their portfolios, 69% said they had been assessed justly; 10% were dissatisfied with the evaluation. One third said that they had learned something from the portfolio for their later practice.

Table 1. Descriptive statistics of the evaluation tool (n = 136 completed questionnaires)

Nr. / Statement	Response Category					Mean (SD)
	Agree com-pletely n (%) (1)	Agree in part n (%) (2)	so / so n (%) (3)	Hardly agree n (%) (4)	Don't agree at all n (%) (5)	
1) A portfolio on doctor-patient-communication is generally a good idea.*	44 (32%)	55 (40%)	31 (23%)	2 (2%)	3 (2%)	2.0 (0.9)
2) I think it's good to create a portfolio rather than taking an exam.	88 (65%)	28 (21%)	17 (13%)	3 (2%)	0 (0%)	1.5 (0.8)
3) I like the idea of being able to work on the portfolio during the lecture-free periods.	96 (71%)	26 (19%)	7 (5%)	4 (3%)	3 (2%)	1.5 (0.9)
4) The course in the 3rd semester helped me to create the portfolio.*	4 (3%)	31 (23%)	29 (21%)	55 (40%)	16 (12%)	3.4 (1.1)
5) It was easy to find a suitable interview partner.	27 (20%)	37 (27%)	45 (33%)	19 (14%)	8 (6%)	2.6 (1.1)
6) The questions to be answered in the portfolio are worded in a comprehensible manner.*	13 (10%)	53 (39%)	52 (38%)	6 (4%)	11 (8%)	2.6 (1.0)
7) I think I was rated justly.	46 (34%)	48 (35%)	28 (21%)	6 (4%)	8 (6%)	2.1 (1.1)
8) I learned something of use in my later work as a doctor from the portfolio.	8 (6%)	32 (24%)	46 (34%)	33 (24%)	17 (13%)	3.1 (1.1)

**one missing item*

3.2 Results on Time Resources

The time required by students to create the portfolio, including conducting the two interviews, averaged 23 hours (Median = 22.9; SD = 13.9) (N = 117). Duration of 15 hours was cited most often; the second most-frequently cited duration was 20 hours. A tutor needed on average four hours to process a complete portfolio, including the write-up of the two

evaluation reports. For some of the students, this included processing the revision and participating in the feedback discussions. The time required by the five staff members averaged 19 hours per semester, equaling 0.7 hours per portfolio. The person responsible for the organizational management required about 120 hours per semester for portfolio-related activities.

3.3 Results of the Students' Performance

161 of the 164 students in the winter semester 2011/12 cohort submitted a portfolio; 61.6% were female. Overall, no revision was required from 15.5% of the students. They achieved ratings of "requirements fulfilled on average" or better in the final evaluation in all four content areas: (1) Anamnestic Interview, (2) Health-behavior Interview, (3) Experience in practical care training, and (4) Summary with respect to all nine evaluation criteria: (1) Formal Aspects, (2) Logical consistency, (3) Wealth of Detail, (4) Application of Theoretical Models, (5) One's Own strengths (6) Learning goals, (7) Interview Dimensions according to Rogers, (8) Summarizing Reflection, (9) Authenticity. The majority of the portfolios (84.5%) required revision. The extent of the revisions was characterized as follows: Revision with respect to one evaluation criterion was required for 24.8% of the students; with respect to two evaluation criteria, for 28.0%; to three criteria, for 14.9%; to four or more criteria, for 16.8%. Overall, 98.1% of the students fulfilled the minimum requirements after a single revision of the portfolio. Only a minority of 1.9% had to perform a second revision. Performance with respect to the 9 evaluation criteria and with respect to the four content areas is presented *in detail* in Table 2and described in summary in the following two sections.

The most difficult evaluation criterion for the students was "Interview Dimensions according to Rogers." 78.3% had to make revisions related to that criterion. A typical problem was a lack of differentiation between basic attitudes in conducting the interview, such as empathy and active listening, e.g.: "My empathy arose by listening seriously to her, by nodding to encourage her to continue speaking and finish what she was saying and by trying to understand her." 44.7% of the students had difficulty with the evaluation criterion "Application of Theoretical Models." Some problems were that the specific models were incompletely described or incorrectly presented. For illustration, basic terms such as "resources"/"protective factors" in the TTM [40] were inappropriately used: "The fact that all of her friends smoke protects the patient and her smoking behavior, so she continues to smoke." The need for revision concerning the other seven criteria was either less than 20% (Learning goals: 16.1%; Wealth of detail: 11.2%) or even less than 10% (Formal Aspects: 6.8%; Logical Consistency: 7.4%; One's Own Strengths: 6.2%; Summarizing Reflection: 3.1%; Authenticity: 3.7%).

Furthermore, the extent of the need for revision in the four content areas of the portfolio was analyzed. The need for revision was greatest in the area "Anamnestic Interview" (72.7%) and least in the areas "Experience in practical care training" and "Summary" (8.1% and 5.0%, respectively). Half of the students had to revise the "Health behavior interview" (50.1%).

Table 2. Need for revision of the portfolio submitted for final evaluation[#] (N = 161 submitted portfolios)

	Anamnestic Interview		Interview Health Behavior		Experience Practical Care Training		Summary	
	N	%	N	%	N	%	N	%
Formal Aspects	5	3.1	3	1.9	2	1.2	3	1.9
Logical Consistency	6	3.7	3	1.9	2	1.2	3	1.9
Wealth of Detail	14	8.7	5	3.1				
Application of Theoretical Models	59	36.6	64	15.5	9	5.6		
One's Own Strengths	5	3.1	4	2.5	1	0.6	4	2.5
Learning goals	17	10.6	7	4.3	2	1.2	6	3.7
Interview dimensions according to Rogers:	(a)	(a)	(b)	(b)	(a)	(a)		
(a)Empathy/Directivity/ Active listening	101	62.7	66	41.0	3	1.9		
(b) Appreciation/Self-congruence								
Summarizing Reflection							5	3.1
Authenticity	0	0	2	1.2	1	0.6	4	2.5

Gray background: Evaluation criterion is not used for this content area.
 # Multiple entry in cells possible; therefore, line/column sums may be >100%.

3.4 Discussion of the Results

The Erlanger Portfolio is being used since 2010, and more than 600 students have successfully completed this form of learning and examination. From this point of view, the portfolio provides a good method for easing the hectic and content-dense lecture period, to enable process-developmental learning and a competence-based examination in which students need not fear failure, and to train skills that are difficult to teach with standard procedures. The topic of patient interviews, in particular, requires practical training. Student feedback confirmed that they really understood the "contents" of the lectures only after practical application. The positive attitude toward the portfolio was also seen in the high approval rating: Three fourth thought the portfolio is a good teaching method for the topic doctor-patient relationship. Two thirds had the feeling they had learned at least in part something from the portfolio for their future work as a doctor. Another advantage from the students' point of view was that the very intensive learning phase at the end of the lecture period was eased by the portfolio, which supplanted another oral or written examination in this period. The main work of the portfolio can be done during the semester break. This was appreciated by the majority of the students. Moreover, cramming for tests is eliminated by the portfolio, which was also highly approved. These latter results are supported by an US-study where medical students who were assessed by portfolios and grades reported increased stress in comparison to the Portfolio-only group [44].

The positive rating is confirmed by other results from the literature. In an Australian study [8], 63% of the medical students found that the portfolio helped them to develop reflective capabilities. And in another study thought 51.3 % of the students that the reflective aspects of learning were useful [45]. Next to the skills, improved knowledge and understanding of the

learning goals was observed as a main effect. The latter was also confirmed by a review [46]. Students who participated in various cohorts over four years in a portfolio project [47] endorsed this. Not least important, it was mentioned in the systematic review [46] that portfolios improve feedback from staff to students and that instructors become more conscious of their students' needs.

However, one must not overlook the fact that the introduction of portfolios as a competence-based examination is coupled with certain anxieties and fears on the part of the students [47]. Many anxieties are due to inadequate information about the requirements for compiling the portfolio and how the students can be supported by the tutors [48]. There is a fear that only socially-desirable contents will be rated "good," and there is doubt about whether reflective learning can be taught and evaluated at all: "I think it's something you do off your own back; it's not really something that you can integrate into a course" [48]. Undoubtedly, students acquire competences through self-motivated learning from experience, reflection, and feedback [17]. But obviously, such a process of acceptance may take several years [33,47] and can also fail if useful guidance by tutors/supervisors is lacking [35].

The here presented experience also shows that the students are very interested in submitting a "perfect" portfolio and have difficulty estimating "what [we] want to hear." There are recurrent problems with the difference between what constitutes a very good portfolio and mostly socially-desirable responses. Experience shows that the students need encouragement for authenticity because the learning form of the "portfolio" is novel and they are not accustomed to it. This is probably the reason why more than one third (37%) of those surveyed thought it questionable that they had learned "something for their later work as a doctor" from the portfolio.

According to the research group of Rees and Sheard a positive attitude by the students toward the portfolio was correlated with an improved ability to reflect, better evaluation, and the confidence to be able to successfully create another portfolio [13]. This attitude can be strengthened when the student's process-developmental learning is supported by specific feedback. This was confirmed by the fact that, in the interim evaluation – after the submission of the first part of the portfolio (anamnestic interview) – a need for revision was determined for 84.5% of the students, but the revision was successfully made by more than 98% of the students.

One aspect of the portfolio concept that should not be underestimated is the time factor – both for the students and the instructors. A student requires on average 23 hours for the portfolio, and the person mainly responsible for the organization and coordination of the portfolio needs on average 120 hours per semester. This is in addition to the supervision and correction time needed by teaching staff and by the tutors. The time needed by staff and thus the costs to the university are certainly greater than in traditional teaching and examination forms, even though it is not "exceedingly time-consuming or downright impossible" [32] to implement such a new method. However, a sufficient number of instructors and tutors are needed, for whom financial resources must be available.

It is noteworthy that a portfolio is often seen as disruptive or as competition for clinical learning in the later segment of the study of medicine [46,47], whereas the integration of a portfolio in the existing curriculum of the preclinical segment appears easier to achieve [13,32]. On the other hand, creating a portfolio in this early stage of medical studies is hampered by the inadequate experience of the student in dealing with patients – they have hardly had the opportunity to conduct patient interviews themselves. For many students, the

anamnestic interview in the portfolio was in fact the first “real” patient interview of their careers. Accordingly, about 20% of the students had trouble finding suitable interview partners. From this point of view, it is desirable that medical students have patient contact as early as possible in their studies and can begin to work on their communication skills.

There is discussion in the literature that the reliability and validity of portfolios have not yet been sufficiently scientifically investigated [28,49]. On the other hand, there is scientific evidence of a “moderately good inter-rater reliability” of portfolios [32]. There is certainly a need for further research on this topic as well as on the quantifiable learning effects of portfolios, which should be evaluated in relationship to the time required [21]. This could provide evidence of the cost-efficiency of the portfolio concept. In general, it can be noted that the use of portfolios as a learning method will increase – in preclinical study segments, but also in postgraduate medical training – in continued medical education and even in medicine-related areas [e.g. 15,16,18].

In order to increase the degree to which student learning can profit from the portfolio in the future, it is planned to create a better link between the portfolio concept and the teaching concept in the course “Training patient interviews in Medical Psychology and Medical Sociology.” This means specifically that role-playing instruction should precedeportfolio work for all students so that their course experience can be used in creating the portfolio.

From our point of view, the teaching of essential skills of the medical profession in the early phase of medical studies, which is (in Germany) dominated strictly by the natural sciences, is advantageous. The education of human medicine in Germany is characterized by a strict division into preclinical-theoretical versus clinical training. With the portfolio, it is possible to counteract this strict division and train practical skills as early as possible, according to the principle that early practice makes for greater success later.

4. CONCLUSION

The great importance of our portfolio concept for the medical students is seen in the fact that the greatest deficits were apparent in patient-centered attitudes while conducting an interview; that is, in the areas of active listening, empathy, and appreciation. It is in no way sufficient to teach these issues in theory; they must be applied practically with direct feedback. This work supports the thesis, that the portfolio method is capable of being integrated into the regular duties of research and teaching, given the availability of enough tutors and one person in charge of the organization, with a time requirement of about 1 hour per week for the remaining participating teaching staff. As a teaching and examination form, the portfolio is positively rated by medical students, and it is preferred over a classical written examination. The time required is less than for a written exam, and it can be more flexibly planned and spread over a longer period of time. The results of the work suggest that the developed evaluation system is practical, communicable, and objective. The students consider it to be fair.

CONSENT

The study subjects were healthy, fully self-responsible university students.The presented questionnaire was applied as a matter of teaching evaluation which constitutes a standard procedure at the University of Erlangen-Nuremberg for reasons of quality assurance. Students are informed about the evaluation procedures at the matriculation. Therefore the evaluation is approved by the Friedrich-Alexander-University of Erlangen-Nuremberg. It is

voluntary, anonymous and refusal is possible without expectations of disadvantages. The procedure complies with the declaration of Helsinki.

ETHICAL APPROVAL

The teaching method of the portfolio and its assessment was presented at the “commission for teaching and studies” (“LUST-Kommission”) of the Friedrich-Alexander-University Erlangen-Nuremberg. The members approved of the appliance of the method and its evaluation.

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COMPETING INTERESTS

Authors declare that no competing interests exist.

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APPENDIX 1

Course: Training patient interviews in Medical Psychology and Medical Sociology
Studies of Human Medicine, Undergraduate Part

Semester: WS _____ or SS_____

Portfolio for the
Development of Communication Skills and Medical Expertise

-Version SS 2013-
Submitted to the
Faculty of Medical Psychology and Medical Sociology
(Prof. E. Gräßel, M.D.)

Author (Last Name, First Name):_____

Matriculation number:

Street:

Zip, City:

Telephone:

E-Mail:

Will be filled out by the Team:	
Submission date:	Interim evaluation:
	Final evaluation:
	1st Revision, if needed
	2nd Revision, if needed
Discussion date, if needed	

Portfolio for Medical Students

What is a Portfolio?

Generally, this is a collection of material that documents one's own professional development, in this case with reference to Medical Studies, including individual assessments and reflections on one's own work. It conforms to a defined structure. This may be supplemented by one's own ideas. Proprietary material that documents personal development may be included in an appendix. The method of material collection is open. Written documentation, protocols, or even photos may be integrated – but no external documents with patient data.

What is the Reason for using Portfolios?

- Authentic learning to overcome the gap between theory and practice
- Development of the capacity for reflection
- Setting one's own important learning goals
- Long-term documentation of one's own work

Prerequisites for the Success of the Portfolio Concept:

- Clear structure, transparent guidelines
- Offer of guidance, mostly by e-mail, opportunity to discuss one's experiences after the final evaluation, correction teams of lecturers and tutors
- Interim feedback and final feedback
- Evaluation (very good/sufficient/not sufficient)
- Sufficiently large experience pool

Implementation:

All medical students set up a pre-structured portfolio during the 3rd semester. An interim evaluation is conducted during the semester, and a final evaluation is conducted at the beginning of the 4th semester. The student will be evaluated with regard to the extent to which the demands set (according to the structure) have been met and whether a critical evaluation of one's own actions has been made. The lecturers and tutors will fill out a written feedback sheet for the interim and final evaluations. In the reflection, socially-desirable responses are less important than a seriousness that indicates personal considerations and evaluation.

The following themes are addressed: Development as a communicator and medical expert. During the period, two interviews must be conducted, documented, and reflected upon, and one experience from the practical care training must be reported and documented. Finally, a summary reflection of one's strengths and further development goals in communication skills is to be made. There are guiding questions that must be answered for each segment. These are intended to facilitate the conducting of interviews and reflection for the student.

Contents:

- Taking a thorough anamnesis (Documentation, feedback from interview partner, & reflection)
- Discussion of health behavior (Documentation, feedback from interview partner, & reflection)
- Report on an experience in practical care training
- Summary evaluation of one's own communicative strengths and future goals

Contents

Development as a Communicator and Medical Expert

1) Anamnestic interview
   a) Documentation
   b) Feedback from interview partner
   c) Reflection

2) Discussion of health behavior
   a)Documentation
   b)Feedback from interview partner
   c)Reflection

3) Report on an experience in practical care training

Summary

1) What particular success did you have with respect to communication skills?
2) What was less successful?
3) What exactly do you wish to improve in the future?

Additional work

Interim Evaluation Report:

Statutory Statement:

Development as a Communicator and Medical Expert

Communication skills are a necessary basic skill for doctors, independent of their later special field. Effective communication, especially for doctors with direct patient contact, is a critical element for later treatment success and the willingness of the patient to comply with and adhere to the treatment. These communication skills can be trained.

1) Anamnestic interview

a) Take a thorough anamnesis of one patient (for information on patient selection, see chart introduction to the Portfolio) and document the anamnesis here! Don't forget to inform the patient about how his data[1] will be handled! Have him confirm the information with date and signature at the end of the interview.

Below is an example of a thorough anamnesis sheet. This is for your guidance. The sequence may be changed during the interview and adapted to the interview. Additional supplements are, of course, possible. All questions should be asked and answered.

SOCIODEMOGRAPHY:

First name, Last name: Age:

Gender: Family status, Children:
Education/highest educational level attained:

Occupation/Position:

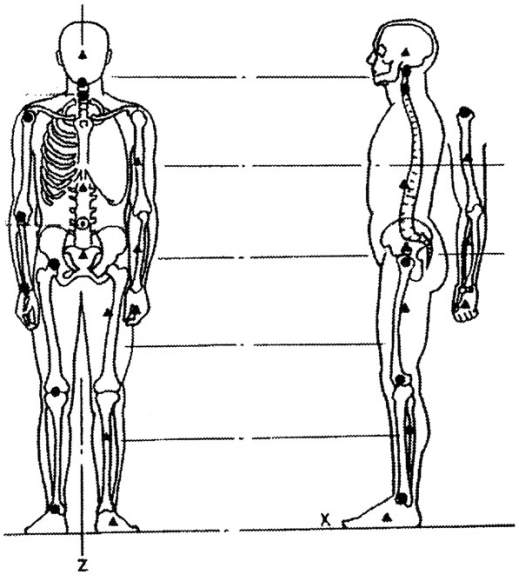
Health insurance SHI / PHI

If SHI: Registered in a General Practitioner Model?

If SHI: Registered in a Disease Management Program?
If yes, in which?

[1] *All data are recorded in strict confidence and serve only as documentation during the 3rd semester of medical studies. They will be used exclusively and only once in a sort of homework situation – a so-called portfolio. Both the medical student who conducts the interview and the teachers are sworn to confidentiality. The data will not be used for scientific analyses. They will be stored in locked data protection cabinets by the faculty of Medical Psychology and Medical Sociology of the University Hospital Erlangen. The data will not be provided to any third party. There will be no attempts made to contact patients by either the University Hospital or further medical students after completion of this interview.*

CURRENT COMPLAINTS/PAINS:



1. **What complaints do you have*** *(not diagnoses!)***?**

2. What occurred immediately before this complaint first appeared?

3. Where do the pains occur and what are they like? (please identify them in the figures to the left)
   (X = point source;
   Line = unclear localization;
   Arrow = radiation) → please draw the symbol

On a scale from
1 2 3 4 5 6 7 8 9 10
(mild) (very severe)

4. How severe are the pains or the complaints?

5. How long have you had the pains or complaints?

6. How often do you have the pains or complaints?

7. What are the pains like?
   (pulling, burning, stabbing, throbbing, pressing, tingling, …)

8. What events/activities make the complaints worse?

* What diagnosis (diagnoses) does the patient have with respect to his current complaints?

10. Are there other symptoms in addition to pain?

11. What have you done so far about the pains or complaints?

HISTORY

12. What diseases have you had in the past?
13. What infectious diseases did you have (as a child)?
14. What booster shots have you had?
15. Did you have a reaction to them?
16. What diseases have occurred in your family?
17. What treatments (operations) have you already undergone?
18. What medications do you take?

GENERAL WHOLE-BODY ANAMNESIS

(All questions must be asked! Answers concern the present and the past)

19. Allergies (Pollen, foods, animal hair, dust, zinc/nickel, …)

Head and Neck

20. Headache (if yes, how often, where, when?)
21. Hair (Hair loss?)
22. Eyes (Blurred vision, chronic changes, infections, impaired vision, frequent sties)
23. Ears (Tinnitus, hearing loss, inflammation)
24. Nose (Operations, frequent inflammation, nasal sinuses, impaired nasal respiration, snoring, polyps)
25. Tonsils (recurrent inflammation, OP (removal))
26. Thyroid (Under-/overfunction, medications, nodes, OP)

Chest and Abdomen

27. Heart (hypertension, complaints, stabbing, feelings of pressure, constriction, arrhythmias, fibrillation, ECG-anomalies, treatments, if the patient knows: heart failure, chronic ischemic heart disease)
28. Respiratory tract/Lungs (Bronchitis, frequent cough, pulmonary inflammations, problems breathing, shortness of breath, bronchial asthma, if the patient knows: Chronic obstructive pulmonary disease)
29. Gallbladder (Pressure in upper abdomen, stones, colic, previous OPs, fat intolerance)

30. Liver (Changes, Hepatitis)

31. Stomach (Feeling of repletion, heartburn, lack of appetite, gastritis, pain after certain foods/drinks)

32. Pancreas (Diabetes, malfunctions and corresponding treatment)

33. Intestines (Infections, chronic diseases, frequent diarrhea/constipation, OP)

Extremities and Back

34. Arms (Injuries, pain, occupational or athletic stress/diseases, tingling, feeling of numbness, stiffness)

35. Legs (Injuries, pain, occupational or athletic stress/diseases, tingling, feeling of numbness, stiffness, varicosis, OP)

36. Back (Pain, movement, tension, possible burden, disks, OP)

37. Bone system in general (Osteoporosis)

38. Skin (Frequent inflammations, neurodermatitis, open wounds, malignant changes)

39. Is there anything else you would like to tell me? Have I forgotten any important question about your health?

40. Other important findings/anomalies that have not yet been discussed:

GENERAL LIFESTYLE

41. Sleep (Habits, problems)

42. Smoking

43. Sports (= Sports in the classical sense, such as soccer, gymnastics, yoga, swimming, etc. –
    what, how often, with whom, where?)

44. Exercise (= Exercise in everyday living, such as taking a walk, climbing stairs, working in the garden - what, how often, with whom, where?)

45. Eating habits (what exactly?)
    mornings

    noon

    evenings

    snacks

    Do you avoid certain foods? Why?

46. Has an impairment of lipid metabolism been diagnosed (→ Cholesterol levels) or other metabolic disorders (e.g. diabetes)

47. How do you deal with this in your nutrition?

48. Drinking behavior (how much, what, non-alcoholic and alcoholic beverages)

49. Weight (in kg), Height (in m), BMI

$$BMI = \frac{\text{Weight (in kg)}}{\text{Height}^2 \text{ (in m)}}$$

Classification	**m**	**w**
Underweight	<20	<19
Normal weight	20-25	19-24
Overweight	25-30	24-30
Adiposity	30-40	30-40
Massive adiposity	>40	>40

Example: Woman: Weight 75 kg, Height 1.67 m; Calculation: 75 kg / (1.67 m)² = 75 : 2.8 = 26.8→ overweight

Sources: https://www.uni-hohenheim.de/wwwin140/info/interaktives/bmi.htm,Stand: 23.1.2012
http://www.dge.de/modules.php?name=News&file=article&sid=576, Stand: 23.1.2012

BMI:

50. Weight constant/gain/loss?

51. Overweight/adiposity or underweight?

USE OF MODELS

Explain the following three models with respect to your patient!

52. **Gratification Crisis Model by Siegrist** (chronic stress at work)
Describe how your patient has experienced effort and reward, giving an example. For people employed outside the home; for housewives/men and for unemployed people in everyday living or for pensioners/retirees in their former job or in present everyday life. Use the two components of the model in your specific description (terms(!)). Draw a conclusion regarding whether there is a gratification crisis or not.

53. **Job-Stress Model by Karasek**(chronic stress at work)
Describe how much demand and control your patient has, giving an example. For people employed outside the home; for housewives/men and for unemployed people in everyday living or for pensioners/retirees in their former job or in present everyday life. Use the two components of the model in your specific description (use terms). Draw a conclusion regarding whether there is a critical stress constellation (high stress) or not.

54. **Social Support** from family or friends
*Using appropriate terms, describe **one** form of social support that your patient receives.*

WISH FOR TREATMENT and GOAL:

55. How would like your complaints to be treated?

56. What do you want to achieve with this treatment? What is your goal?

Duration of the interview:

_____

Date Signature of the interview partner

---

b) Ask your interview partner for brief feedback!

The contents of the patient feedback are not included in the evaluation of the portfolio. This feedback serves only your learning experience.

Ask the patient to rate the following aspects of the interview, using school grades (1 = very good to 6 = inadequate):

What did you think of the explanation of the purpose of the interview?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good Inadequate

What did you think of the way your interview partner introduced himself?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good He didn't introduce himself

How do you rate the overall interview situation (atmosphere, room, noises)?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very pleasant Very unpleasant

What do you think of the non-verbal communication of your interviewer (eye contact, distance between chairs, shaking hands in greeting, smiling, nodding)?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good Inadequate

How clearly did your interviewer express himself?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very clearly Very unclearly

Could you say everything you wanted to say?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Completely					Not at all

How much time did you have to ask questions?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
A lot					Very little

Did you feel that you were understood?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very well					Inadequately

How professional did your interviewer seem?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very professional					Not at all professional

How did you feel about the way the interviewer conducted the interview (e.g. could you finish what you wanted to say, was the interview fluid or fragmentary)?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very good					Inadequate

How seriously did the interviewer take you?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very					Inadequately

What did you like the most about the interview?

_____

What could the interviewer have done better?

_____

c) Reflect upon this exercise using the guiding questions!

Guiding questions:

1. *Where or how did you recruit your patient?*
2. *Describe the beginning of the interview. How satisfied are you with it? Why?*
3. *What did you generally find easy about taking the anamnesis?*
4. *What was difficult?*
5. *What did you do particularly well?*
6. *What would you do better next time?*
7. ***Empathy**:*
   a) *What feelings (or thoughts/cares/wishes) did you notice in your interview partner? In which topics?*
   b) *Did you reflect the feelings (or thoughts/cares/wishes) cited under a) back to your patient? If so, how did you do this; if not, where exactly did the difficulty lie? Give an example.*
8. ***Active Listening:** Where in the interview was there a sign of active listening on your part? What verbal techniques did you apply? Give an example.*
9. *In your opinion, how did your interview partner feel about answering so many questions?*
10. ***Directivity**:*
    a) *In which topics did you control the interview (doctor-centered/directive)? In which topics did the patient control the interview (patient-centered/non-directive)?*
    b) *Reflect on your interview behavior with respect to directivity. Were the proportions of directive and non-directive parts helpful? If so, why? If not, what would you do differently next time? Why?*
11. *Did the interview get bogged down? If so, how did you overcome this?*
12. *Are there points that you found especially important in this experience that you would like to share with others?*

2) Interview on Health Behavior

The second practical segment on doctor-patient interviews no longer consists of simply recording complaints, but rather consists of a discussion of health-relevant behavior. This

may include dietary behavior, exercise behavior, current or earlier smoking behavior, dealing with UV-radiation, coping with stress, or any other health-relevant (!) behavior.

The opportunity to discuss such behaviors arises frequently in medical practice – independent of the field of practice or activities in in-patient care. A limitation of such discussions to only a few specialties also makes no sense – the influence of these seemingly simple health behaviors is too great, as e.g., the INTERSTROKE and INTERHEART studies have shown.

Theoretical models have been developed to predict the probability of behavioral change depending on which stage the patient is in. Moreover, there are hints about what should be discussed, depending on the stage of the patient.

The Transtheoretical Model of Change (TTM)described by Prochaska and DiClemente is cited here as an example. (see Faller/Lang, 2010, P. 317ff). It is structured around the stages:

a) Precontemplation
b) Contemplation
c) Preparation
d) Action
e) Maintenance
f) Termination

No patients in Maintenance or Termination, please!

Depending on the stage, the interview should contain the following as foci:

a) Communication of information about the health behavior in question
b) Citing and weighing the advantages and disadvantages of the behavior
c) Planning support, formulation of realistic expectations, time management
d) Exploration of barriers that could endanger further performance, development of strategies against these barriers, exploration of resources
e) Clarify confirmation, appreciation, need to adapt

This does not, however, mean that topics listed under a) to e) may not also be discussed in the other phases.

a) Conduct and document an interview with a patient about a health-relevant behavior (for examples, see above). For information on patient selection and the scope and nature of the documentation, see charts for the introduction to the Portfolio/FAQs.

Please note that your patient should NOT be in the maintenance or termination phases!

Structure the interview so that the contents refer to the phase of the TTM appropriate for your interview partner. Don't forget to inform the patient about the handling of his data![2] Have him confirm the interview at the end by date and signature.

DATA OF INTERVIEW PARTNER:

First name, Last name: Age:

Gender: Family status, Children:

Education/highest educational level attained:

Occupation/Position:

Health insurance: SHI / PHI

If SHI: Registered in a General Practitioner Model?

If SHI: Registered in a Disease Management Program?
If yes, which?

2a) Documentation TTM-Interview – 3-part structure!

1. Introduction

*Please answer **all** of the questions below in a prose paragraph. Summarize the **interview** in a **comprehensible** manner.*

What problem behavior could be identified?

What information was collected?

In which phase of the TTM is your patient and why?

What resources and barriers could be identified?

[2] *All data are recorded in strict confidence and serve only as documentation during the 3rd semester of medical studies. They will be used exclusively and only once in a sort of homework situation – a so-called portfolio. Both the medical student who conducts the interview and the teachers are sworn to confidentiality. The data will not be used for scientific analyses. They will be stored in locked data protection cabinets by the faculty of Medical Psychology and Medical Sociology of the University Hospital Erlangen. The data will not be provided to any third party. There will be no attempts to contact patients made by either the University Hospital or further medical students after completion of this interview.*

2b. Planning further procedures

*Please answer **all** of the questions below in a prose paragraph.*

How did you continue the interview?

What else did you discuss with the patient? (example: Lists of pros and cons, Explanation, ……..)

What suggestions did you make?

3. End of the Inverview/Leave-taking

*Please answer **all** of the questions below in a prose paragraph.*

With what arrangements did the patient leave?

How did you feel as you completed the interview?

Duration of the Interview:

Date Signature of the Interview Partner

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b) Ask your interview partner for brief feedback!
The contents of the patient feedback are not included in the evaluation of the portfolio. This feedback serves only your learning experience.

Ask the patient to rate the following aspects of the interview, using school grades (1 = very good to 6 = inadequate):

What did you think of the explanation of the purpose of the interview?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good Inadequate

What did you think of the way your interview partner introduced himself?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good He didn't introduce himself

How do you rate the overall interview situation (atmosphere, room, noises)?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very pleasant Very unpleasant

What do you think of the non-verbal communication of your interviewer (eye contact, distance between chairs, shaking hands in greeting, smiling, nodding)?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good Inadequate

How clearly did your interviewer express himself?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very clearly Very unclearly

Could you say everything you wanted to say?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Completely Not at all

How much time did you have to ask questions?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
A lot Very little

Did you feel that you were understood?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very well Inadequately

How professional did your interviewer seem?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very professional Not at all professional

How do you feel about the way in which the interviewer conducted the interview (did you feel lectured or pressured)?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very good Inadequate

How was your interviewer's advice about your behavior?

❑ ❑ ❑ ❑ ❑ ❑
1 2 3 4 5 6
Very helpful Not helpful

How motivated are you now to change your behavior?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very motivated					Not motivated

How well do you understand what you can change?

❑	❑	❑	❑	❑	❑
1	2	3	4	5	6
Very precisely					Not at all

What did you like the most about the interview?

_____

What could the interviewer have done better?

_____

c) Describe and evaluate your personal experience in the second interview based on the guiding questions!

Guiding questions:

1. *Were you able to structure the interview? Why or why not?*
2. *What did you do particularly well in this interview?*
3. *Can you recognize development in your communication skills compared to the anamnestic interview? What? If not, why not?*
4. *What difficulties did you notice with respect to your own communication skills in the interview?*
5. *What would you do differently next time?*
6. ***Appreciation:***

   Were there moments in which you devalued your patient to yourself (Example: "How can anyone…!")? Were there moments in which you especially appreciated your patient? Which moments were those and how did you deal with them?

7. ***Self-congruence:***
   In which situations was it difficult/easy for you to be authentic? Did you, for example, say anything that went against your own feelings? Answer the question using an example from your interview.

8. *Are there points that you found especially important in this experience that you would like to share with others?*

3. Report on an Experience in Practical Care Training

Practical care training is part of the mandatory curriculum in the studies of human medicine. Here, most medical students have contact for the first time with patients over a longer period and the opportunity to have diverse experiences in the professional team structure. Many of these experiences are positive; sometimes, however, they are less positive but still instructive.

Think back on your practical care training and describe the experience from which you learned the most. Discuss why!

If you can't think of any "special" events in your practical training, describe what you learned anyway, using "everyday" situations. Always use examples. Concentrate on your learning experience!

If your practical training was a long time ago but you have been able to collect professional experience in another medical context (for example, ambulance service or occupational training in health and nursing), you may refer to this experience in your reflections. But then please answer all questions as strictly related to that situation.

Guiding questions:

1. *From what experience did you learn the most? Describethesituation!*
2. *Who was involved?*
3. *What exactly did you learn from it? Why was it such a memorable experience?*
4. *Would you have reacted differently than the medical personnel or people involved? If yes, how? Or, if no, what exactly did you like about their reactions?*
5. *What would you have done in the patient's (or involved person's) position? How would you have felt?*
6. *From what you know today, should you have reacted differently? Or would you react in exactly the same way? Why?*
7. *Are there other points that you learned from the practical care training? If so, what are they?*
8. *What did you do well during practical training?*

Explain the following three models with respect to your practical training!

9. **Role analysis according to Wisweds**
   Analyze your role as a medical student in practical care training. What expectations were set for your behavior? Perform a Wiswede role analysis for this question! (a chart may be attached if you wish)
10. **Role conflict**
    *Describe which **intra- and inter-role conflicts** occurred. If you could not recognize any particular conflicts, explain this using an example.*
11. **Asymmetry of the Doctor-Patient Relationship**
    *How was the structure of your relationship to the patient with respect to symmetry and asymmetry (aspects: Dependence, competence, power, and social difference)? Describe **one** aspect in an example, using appropriate terminology.*

Summary

This final segment deals with an overall evaluation of your own communication skills. Try to remember the two interviews and your experience during practical training to formulate your strengths in these and your learning goals. In this section, concentrate less on details than on the primary goal.

Give a self-critical description of your development with respect to communication skills both in patient interviews and in practical training. Summarize in threesegments!

1. **What particular success did you have with respect to communication skills?**
2. **What was less successful?**
3. **What exactly would you like to improve in the future?**

Revisions

Please use this and the following pages for any necessary revisions. Please mark the revision with the current date and a reference to the corresponding question with a page number and a question number (e.g. P.12 Question 3). Please do not remove any of the original pages.

Revisions

If you need extra space, please insert additional pages.

Interim Evaluation Report

The time schedule calls for an interim evaluation during the 3rd semester. As a prerequisite for a successful interim evaluation, the anamnestic interview must have been conducted, documented, and reflected upon. Only then can feedback be provided. The feedback tells the student whether the contents of his work are extensive enough and adequate.

For the evaluation of reflections, it does not matter whether the contents are socially desirable, but rather whether the student is able to analyze his experiences and evaluate them himself. There can be no failure with respect to contents, unless due to inadequate depth, lack of seriousness, or a lack of reflection.

Final Evaluation:
The final evaluation is made at the beginning of the 4th semester, after the individual evaluation of the portfolio. In addition to completeness, the quality of the documentation and reflections must be sufficient throughout the portfolio for a positive final evaluation.

The feedback sheets for the interim evaluation should be inserted here.

Statutory Statement

Herewith, I

Last Name:	First Name :
Date ofbirth:	

declare under oath before the Faculty of Medical Psychology and Medical Sociology of the Psychiatric and Psychotherapeutic Clinic of the University of Erlangen, that the presented written text entitled:

Title of the Text:

Portfolio for the Development of Communication Skills and Medical Expertise

In theCourse:

Training patient interviews in Medical Psychology and Medical Sociology

In the Summer/Winter Semester:

was prepared solely by me. I declare that the anamnestic interview with

Mr./Ms. _____, and the interview concerning health behavior with

Mr./Ms. _____ was carried out solely by myself. All guiding questions in this portfolio were answered entirely independently by me without any outside help.

City _____ **_____**

Date **Personal Signature**

This statement must be attached to your self-created work as an appendix. Texts without this statement will not be accepted. Attention is drawn to the juristic relevance of a false sworn statement.

APPENDIX-2

List of Criteria applied in the Assessment of the Portfolio

Criterion 1- Formal Aspects

Definition/Description: Writing style, correct spelling and grammar, reference to self

Criterion 2- Logical Consistency

Definition/Description: Information is consistent, no contradictions

Criterion 3- Wealth of Details/Plasticity

Definition/Description: Detailed, thorough, well thought-out, appropriately adapted to the individual case

Criterion 4- Application of Theoretical Models

Definition/Description: All models cited are correctly used in reference to the individual patient

Criterion 5- One's Own Strengths

Definition/Description: Recognizes and cites one's own strengths

Criterion 6- Learning Goals

Definition/Description: Citing of weaknesses in one's own communication behavior and transfer to goals for the future

Criterion 7- Interview Dimensions according to Rogers

Directivity/Active Listening/Empathy/Appreciation/Self-congruence

Definition/Description: Flexible directivity and active listening in conducting interviews/Recognize the patient's feelings and react appropriately/Acceptance of the patient, the person as a whole/Congruence of one's own attitudes and feelings with what is said

Criterion 8- Summarizing Reflection

Definition/Description: Summary of essential information about various interview situations, summarizing one's own communication development

Criterion 9- Authenticity

Definition/Description:	Genuine interest in the patient and in confronting one's own behavior, emotional aspects are mentioned.

Peer-review history:
The peer review history for this paper can be accessed here:
http://www.sciencedomain.org/review-history.php?iid=326&id=21&aid=2536