

Developing good teachers and scientists

The Teaching Portfolio

Aino Corry
Department of Computer Science
Aarhus University
aino@cs.au.dk

Bettina Dahl Søndergaard
Centre for Science Education
Aarhus University
bdahls@cse.au.dk



AARHUS UNIVERSITY
SCIENCE AND TECHNOLOGY
CENTRE FOR SCIENCE EDUCATION

PORTFOLIO

TECHNICAL

The Teaching Portfolio

1st edition 2011

Written by Aino Corry and Bettina Dahl Søndergaard

Graphics by Thomas Hvid Spangsberg

Part of the series: Developing good teachers and scientists

ISSN: 2245-0556

2011, Aarhus University, Denmark - Centre for Science Education
www.cse.au.dk





1	Introduction	2
2	The teaching cv and the teaching portfolio.....	3
3	Levels of teacher expertise	5
4	Scientific teaching	6
5	What should university students learn – besides the specific content?.....	7
6	The practicalities of creating a portfolio	8
7	References.....	10
	Appendix A: How to create your portfolio	11
	Appendix B: Assessment of a portfolio	13



1 Introduction

What is a teaching portfolio (TP)? The name indicates that it has something to do with teaching, but where does “portfolio” come into the picture? A portfolio is something that is widely used in professions, which need to exhibit good examples of their products, for instance modelling, architecture, art, furniture etc. The key idea is that you have a kind of file with the best example of your products in order for a potential buyer or employer to assess your abilities and fittingness for a specific position. But how does this relate to teaching? Can good teaching be documented this way? The obvious answer to what the product of good teaching is, is that students are learning what they are supposed to learn. So do we just send a copy of the students’ exam grades to a potential employer? Naturally, good student grades show something about the teaching, but we also know that grades depend on other things than the quality of the teacher. Other products or indicators of good teaching could be good course descriptions, course material, teacher made handouts, student evaluations, feedback from colleagues, teaching courses taken, years of experience etc. However, the purpose of a teaching portfolio is to document your teaching competence rather than just your teaching experience. Competence and experience are naturally linked since it is hard to image someone being a competent teacher without having any prior experience. Unfortunately, the opposite; a teacher with prior teaching experience but without teaching competence, is something that most people would state they have met as students.

During the last years, the teaching portfolio has been used as part of the selection process when hiring academic staff at Danish universities as well as abroad. In fact, it is mandatory at many universities that applicants to an academic position include a teaching portfolio as part of the application material. At some places it is also called a dossier. The universities have various requirements for and understanding of such a portfolio. A portfolio can both be a personal tool to become aware of, and develop, your competence, and it is a tool for documentation that can be used in job interviews, negotiation of salary, and development talks. Some universities also require a research portfolio and an administration portfolio in job applications. This pamphlet is written in order to give you guidance on how to make a teaching portfolio, but also to show how it differs from a teaching cv.

2 The teaching cv and the teaching portfolio

We make a distinction between the teaching portfolio and the teaching cv. The former is a qualitative display and description of the teaching competence, while the latter can be seen as a quantitative listing of teaching experience.

2.1 The teaching cv

A keyword here is clarity. The reader should be able to quickly get an understanding of the amount and kind of teaching experience you have. It is also important to target precisely the specific job you apply for. Not all information will be relevant each time. You could either include the teaching cv as part of the regular cv or place it with the teaching portfolio, with a reference to it in the regular cv. In any case, you need a teaching cv.

A teaching cv is a list of the teaching tasks you have done, but a teaching portfolio is more than this since it should also show how the teaching tasks have been solved, why you decided to solve it this way, and what the result was. In short, the portfolio should show the high-lights, show how good you are when you are at your best.

Below we will describe the content of the teaching portfolio in greater detail.

The teaching portfolio

Guidelines of what to include in your teaching portfolio have been developed at several universities such as Aarhus University, University of Illinois at Urbana-Champaign, Washington State University, the Karolinska Institutet Sweden, the University of Southern Denmark, and LTH Sweden to name a few. The book: “The Teaching Portfolio - A practical guide to improved performance and promotion/tenure decisions” by Peter Seldin has proved helpful (see reference list for full detail about the book).

Three levels of teaching portfolios could be organized depending on the institutional requirements with the following common attributes:

The Minimal teaching portfolio; “The 2CV”, is in fact a teaching cv and would mostly include the courses as well as corresponding levels. It can also include listing of supervision of students, teaching courses taken yourself, dissemination activities, experience as an examiner or as part of teaching committees. You could also include information about whether the course was co-taught, how many students took the course, lists of constructed course material, the language of instruction, evaluations received etc. But the characteristic of this is that it is a pure listing of your experience without any further explanation, reflection, or even ranking.

The Average teaching portfolio; “the VW stationcar”, is comprised of the Minimal portfolio plus the following items:

- Types of examinations and their benefits or drawbacks
- Contributions to the development of fields of study, courses or subjects
- University-level pedagogical activities, such as education courses and peer supervision
- Study management and development, such as involvement in continuing education programs, external mentoring, etc.
- Student evaluations
- Reflection on your own teaching
- A teaching philosophy statement summarizing your ideals and values as a teacher

Finally, if you want to dazzle the university, you should consider adopting the Ferrari teaching portfolio, which includes the Average portfolio plus the following:

- Statements by directors of studies, heads of institute/department, or course managers
- Completed teacher training and teaching courses. Written assessment from assistant professor courses in teacher training. Participation in conferences about teacher

training

- Development of new courses and forms of teaching and examination or other development work
- Contributions to conferences or scientific articles about pedagogical subjects
- Participation in evaluation work at the faculty or university level in national or international contexts
- Reflections regarding your own teaching work: What were the objectives? Which teaching methods did you employ and why? How did you carry out this teaching assignment? This is sometimes called the teaching philosophy
- Description, using examples, of how you have developed your methods of teaching, supervision, and examination
- An example of how you planned, executed, and evaluated a course, lesson, or tutorial
- An example of evaluations of your educational practice, such as student evaluations of your teaching, peer opinions of your teaching, and the views that doctoral students have had about your supervision methods
- Innovation is not essential for good teaching, but credit should be taken for major efforts to improve teaching. Examples: Novel use of instructional technology, development of collaborative arrangements outside the unit and/or university, adoption of such methods as collaborative learning, use of case studies, etc.
- Extraordinary efforts with special groups of students, like exceptionally skilled students, members of underrepresented groups or groups facing special challenges (women in mathematics, men in nursing, returning students, physically impaired students)
- Student scores on pre- and post-course examinations
- Evidence of help given to colleagues leading to improvement of their teaching

The three levels of ambition described in the three ways of creating a teaching portfolio must be seen in relation to the purpose of creating a teaching portfolio. If you want to be hired as an associate or full professor at an institution, where they value teaching, a Ferrari portfolio seems appropriate. If, however, you are running out of time and are applying for a job as a post.doc. in an institution where they value other things more, a 2CV portfolio might be the right choice. For all the cases in between we would recommend a VW stationcar portfolio.

3 Levels of teacher expertise

Since teaching experience is a central part of becoming a competent teacher, you must also look upon yourself as a student – It is a process of becoming a still better teacher. Dreyfus and Dreyfus (1986) describe five levels of a person's learning process: Novice, advanced beginner, competence, proficiency, and expertise. In the same way, we can talk about novice and expert teachers and anything in between. So what does it mean to be a novice or an expert teacher? How do I know what I am, and how do I communicate this in a teaching portfolio? To help us determine this we can look at a model describing the levels of teacher expertise put forward by Dale (2000) who states that there are three levels of pedagogical professionalism:

K1: Competence to teach goal oriented

K2: Competence to plan and evaluate teaching programmes and plans

K3: Competence to contribute to the development of didactical theory through reflection on practice

This model focuses on the number of areas that teachers are competent of. The three levels are connected in that the teacher is not an expert professional unless the teaching (K1) is implemented based on didactical theory (K3). A key element here is that the teacher is able to teach with consistency between learning goals and what is actually taught (and how it is taught), but also that the teacher is able to reflect on this based on didactical theory. But then we also need to characterise a good teacher. We suggest the following inspired from Virginia Tech (2010):

Characteristics of a good university teacher

- A. The teacher is committed to all types of students, knows how they learn, and is able to plan and implement adequate learning opportunities for them, have productive interaction with them, and provide motivation
- B. The teacher knows the subject, does research in or around the subject, understands the subject's specific didactics, and is also aware of the threshold concepts in the courses taught
- C. The teacher is able to perform formative and summative assessment of student learning and incorporate the result of those in the ongoing planning and teaching
- D. The teacher thinks systematically about his teaching and has formulated a teaching philosophy based on educational research and literature, own investigation and reflection on practice as well as through relating with colleagues

These characteristic can naturally be present at various degrees – A teacher can be anywhere from a novice to an expert and/or K1-K3.

There are other models that describe the progression towards becoming an expert teacher, but it is beyond the scope of this text to give an overview of all of these. However, knowing a model can give you a vocabulary to determine and explain the level of your teaching competence, and it can also give some tools for your own reflection on the level. We would also like to add some comments about how to assess a teaching portfolio. Here we are talking about a presentation portfolio, hence emphasising teaching competence, and as a tool for documentation of such qualification. How a portfolio is assessed is naturally the provocative of those who have advertised the position, however, we would like to make some recommendations and suggestions that you can see in the appendix (also inspired from Virginia Tech, 2010). We suggest a 4-point scale for assessing a portfolio. According to Baume and Yorke (2002), portfolios are typically assessed on 4- to 6-point scales. For inspiration, you can use this separate page to assess your own teaching portfolio or that of your colleagues.

4 Scientific teaching

An important part of a teaching portfolio is your reflection on your own teaching in order to enhance your level of teaching expertise. One way of reflecting on your teaching could be looking at ways to do scientific teaching.

The book by Handelsman, Miller, and Pfund on scientific teaching (see reference list) explains the concept as bringing to teaching the critical thinking, rigor, creativity, curiosity, and spirit of experimentation, that defines research.

Scientific teaching requires that teaching is approached with an unremitting focus on outcomes. You have to be aware what you want the students to learn, and then plan your teaching, assessment, and content accordingly. Reflection has to take place in order to know what to aim for in your teaching, and it is this reflection, and the outcomes of it, that should be described in your teaching portfolio.

The book on scientific teaching provides you with many ways to reflect on your teaching by giving an overview of widely accepted results from educational research. One of these is e.g. that students need to be active during teaching. Another part is that the most accepted theories of learning states that the understanding is constructed in the student's mind, that is, like in science, you always build upon what you already know. Alongside this are the important factors to remember in getting your message through: Learning styles and diversity. The students have different learning styles. Diversity, being ethnic background, gender, age, etc., are also important factors that should be taken into consideration. Proposed and performed responses to this in your teaching style should be a part of your teaching portfolio. Last and not least, science is an iterative thing, and so should your teaching be. Your reflection, based on student evaluations, should take place not just after each course, but during each course. Performing formative assessments during your courses, and summative assessments after, will make you aware how your teaching style or content could be tuned.

5 What should university students learn – besides the specific content?

As you may already know, the Danish higher education sector consists of mainly universities and university colleges (professionshøjskoler). The university colleges offer bachelor degrees in nursing, teaching at compulsory level, and many other areas. Besides the obvious differences in the content, some of the overall aims of the teaching are quite different. Whereas the university colleges offer profession based degrees, the universities are academic research institutions which influence not only the content of the teaching, but also the teaching methods. If you intend to apply for either a university or university college position, it is therefore important that your teaching portfolio reflects your competence teaching the specific kind of teaching of that place.

But then, how does research influence the university teaching? Laursen (1998) mentions several characteristics of what in Danish is called forskningsbaseret undervisning (teaching influenced by research):

1. The content of the teaching consists of (the newest) research results, and the teacher is an active researcher within the area he teaches. The teaching is **affiliated** to a research group. The teaching and research is therefore being done in the same institution, and the content is therefore not imported from elsewhere
2. The teaching is designed and formally lead by researchers, but not necessarily done by researchers. Sometimes assistants are hired to teach parts or the courses. These assistants may be graduate students or external lectures. It is sometimes debated whether or not this hampers the quality of the teaching
3. The students learn to work research-like through collaboration with practising researchers. The reason is not that all students should end up being actual researchers, but this working method is valuable in many other fields. One could also argue that learning to work research-like within one's field is a way to get deeper into understanding the nature of one's field, its method, history, and applications

The third point is different from the first two points where the foci are on what the teacher does.

At the third point the focus is on what the students do, or more precisely, what you as a teacher makes the students do. A teaching portfolio that wants to show a teaching competence toward the expert level ought to have some reflections on these issues, but also convince the reader of the portfolio how competent one is at each point. For your own benefit and development you can use the three points to reflect on.

6 The practicalities of creating a portfolio

In this section you will get a step-by-step description of how to create a teaching portfolio. The goal of a teaching portfolio is to describe your competence as a teacher when you are at your best. You will have between 3 to 8 pages to describe this because you cannot expect people to have time to read more than that. Thus you will have to be concise when writing the portfolio. Think of it as consisting of four major parts: “Your Approach to Teaching” (philosophy, goal, and objectives), “Summary of Teaching Responsibilities and Contributions”, “Reflections on and Assessment of your own Teaching”, and “Supporting Documentation” (in appendices).

We will suggest that you start creating a “Working Portfolio” right away. In this, you will enter everything related to teaching and dissemination (presentations, etc.), all evaluations on your teaching, every course you have taken, or group you have entered in to become a more competent teacher. In the earlier days, the advice was to keep all this in a shoebox in a drawer of your desk, but this might be a somewhat old-fashioned advice, especially since an E-version will allow you to have links to more information and video recordings of your teaching. But the main advice is to start as soon as you can. The longer you wait the more difficult is it to get the information and to remember what you have been doing. Also collect all the material that could be relevant, since it is hard to predict what you need to support your later claims. Remember to date and annotate all the material for later reference.

When you have collected the material that contains all your teaching experience so far, you can start creating a presentation portfolio. For every university you look at there is a new description of what they expect to see in a teaching portfolio, and for some there will even be a template (<http://portfolio.bsd.uchicago.edu/>). But it is important to note that this is your private portfolio describing your best behaviour, and that this will most likely be described in a different fashion than that of your colleagues. Here are six examples of the contents of a teaching portfolio.

(http://lrc.uvic.ca/services/programs/teaching_dossier_kit.php#SIX SAMPLE TEACHING DOSSIERS)


One of the major points of a TP is the Teaching Philosophy Statement, which describes your ideals, goals, and objectives of teaching. It is very easy to find one on the web and simply copy that, and that might work in numerous situations, but to create a convincing Teaching Philosophy Statement you need to reflect on your own teaching.

1. Look through the teaching you have done so far; what actually happened, what did you and the students do?
2. Go through the student’s evaluations; do you see any patterns or “hot spots” that need attention?
3. Have you given the same course twice, changed something in your teaching and then noticed differences in the evaluations or the performance or behaviour of the students?

Based on these three points, reflect on what you do as a teacher, why you do it, and what you would do differently. Write it down in the reflection part of your teaching portfolio and condense it, and use the condensed version as a preliminary Teaching Philosophy Statement (TPS).

Once you start reading about didactics you can use references to this literature in your TPS, and when you are at a level where you start writing about didactics in your field that other people can read, this is also something you would like to enter in your TPS.

If you have no teaching experience, a TPS can simply describe what you strive to be as a teacher when you start teaching. It could be a description with references to teachers you have had that you think did well. Here is a detailed cookbook for what to enter into a



teaching portfolio:
(<http://sites.google.com/site/cityueportfolio/smart-tips-in-teaching-portfolio-template/guide-to-writing-a-teaching-philosophy-statement>).

The rest of your TP should refer back to your TPS, whenever possible, to support your claims and show that you “walk the talk”. Although you have the possibility to enter an infinite amount of appendices in your TP, keep in mind that you are creating this document as a photographer would create his, and show only the bad photos if you want to show how much you have learned and that you are competent enough to see how you got from that stage to where you are now.

How the presentation portfolio looks also depends on if you are applying for a position as a post.doc, which typically does not involve a lot of teaching, an assistant professor position, where you would usually have a good amount of teaching but also be expected, i.e. allowed, to be a rather inexperienced teacher, or a more senior positions as associate professor with a good amount of teaching, and where you will be expected to have a lot of teaching experience and competence.



PORTFOLIO

7 References

Baume, D. & Yorke, M. (2002). The Reliability of Assessment by Portfolio on a Course to Develop and Accredite Teachers in Higher Education. *Studies in Higher Education*, 27(1).

Dale, E. L. (2000). Didaktisk rationalitet og skolen som professionel organisation. I E. L. Dale (red.) *Pædagogik og professionalitet*. Århus: Klim.

Dreyfus, H. L. & Dreyfus, S. E. (1986). *Mind over Machine*. Oxford: Basil Blackwell.

Handelsman, J.; Miller, S. & Pfund, C. (2007). *Scientific Teaching*. Madison, WI; Englewood, CO; and New York: The Wisconsin Program for Scientific Teaching, Roberts & Company, and W. H. Freeman.

Laursen, P. F. (1998). Forskningsbaseret undervisning - og læring, pp. 93-109. In T. S. Gabrielsen & P. F. Laursen (eds.), *At undervise i Humaniora*, Frederiksberg: Samfundslitteratur.

Mille, R. & Morgaine, W. (2009). The Benefits of E-portfolios for Students and Faculty in Their Own Words. *Peer Review*, 11(1).

Rump, C. Ø. (2006). Undervisningsportfolio: At vise hvad man kan, ikke bare hvad man vil og har prøvet. *DidakTips 6*. Institut for Naturfagenes Didaktik. Copenhagen: Copenhagen University, Denmark.
<http://www.ind.ku.dk/publikationer/didaktips/didaktips6/>

Schönwetter, D. J.; Sokal, L.; Friesen, M.; and Taylor K. L. (2002). Teaching philosophies reconsidered: A conceptual model of the development and evaluation of teaching philosophy statements. *The International Journal for Academic Development*, 7(1), 83-97.

Seldin, P. (1991). *The Teaching Portfolio - A practical guide to improved performance and promotion/tenure decisions*. Bolton, MA: Anker Publishing.

Virginia Tech (2010). Virginia Tech's requirement for electronic portfolios:
<http://www.soe.vt.edu/professionaled/TESHportfolio/TESHPortfolioGuide.html>
http://www.soe.vt.edu/professionaled/TESHportfolio/Stu_teach-eval_rub.htm

Appendix A: How to create your portfolio

Creating a teaching portfolio is like writing an application; you have to show yourself when you are at your very best, when it comes to teaching.

A teaching portfolio will always be accompanied by a teaching cv, but the list of teaching and supervision is not the heart of the teaching portfolio, the reflection and your plans for improvement, on the other hand, is.

Below is a list of things you could include in your TP. Every job you apply for might have a more detailed, or less detailed list of things you need, but this is the content you could have, while building your own personal TP throughout your career as a teacher.

Reflection can be difficult, but remember that the quick and dirty way of doing this is to ask yourself these three questions (in the given order):

- What?
- So what?
- Now what?

The content of your TP: (detailed descriptions below)

1. Teaching philosophy statement *
2. Courses taught, subject matter and level (relevant for this TP)
3. Examinations (relevant for this TP)
4. Supervision of thesis and other kinds of supervision (relevant for this TP)
5. Other tutoring and university-level teaching activities
6. Contributions to the development of fields of study, courses or subjects
7. Contributions to textbooks and other subject matter-related teaching materials
8. Study management and development, such as involvement in continuing education programs, external mentoring, etc.
9. University-level pedagogic activities (lectures given, documents created, etc.)
10. Courses taken in pedagogical or didactical subjects
11. Collaborative activities (team teaching, colleague-to-colleague supervision, mentoring, etc.)
12. Plans for teaching, materials used for teaching and guidelines for how to teach a course with comments on how they are created and used. The examples can show constructive alignment between teaching and exams, didactic conditions, and relations to course goals following the study programs.
13. Descriptions of experiments and development projects, research in teaching in collaboration with other institutes, and working with new ways of teaching and examining.

Results, which can back up your statements

- a. Student evaluations from at least 2 courses with your interpretation of them
- b. Statements from department heads, course managers and other supervisory staff regarding development of pedagogical skills, experience and accomplishments
- c. Research projects/papers/publications

Teaching philosophy statement:

- State and explain clearly your values, beliefs and goals of teaching and of education.
- Define and justify principles that constitute effective teaching.
- Describe and justify decisions about course content and teaching methodologies, and kinds of assessment tools you have used (or will use) in the classroom and

constructively align them with the specific objectives and outcomes for the course(s) you teach (or will teach). Point to an example course described later in the TP

- Demonstrate your awareness of student learning by referring to learning theories. How do you take account of different attitudes, motivation, learning styles and preferences when designing teaching and learning activities?
- Evidence how relevant literature (including theories of teaching and learning) and/or other strategies inform your teaching and assessment practices and how your teaching is connected explicitly to disciplinary research.

Additional artifacts that can be included in a teaching portfolio:

- Job responsibilities
- Links to websites relevant to your purpose, e.g. your course site
- Photos
- Case studies [Studies of a student's growth over a period of time]
- Organizing events, field study trips [Copies of programmes, correspondence with agents involved, letter of invitation, memos etc.]
- Conference presentations
- Video of classroom teaching
- Class observation reports
- Goals (Short- & long-term) [Think about the important results you should accomplish as a teacher and record these as goal statements]
- Plans for professional development [Short- & long-term plans for professional development]
- Evaluation of student work
- Awards/certificates/grants

Appendix B: Assessment of a portfolio

- 3 - Expert: Consistently seen evidence of (total points: 10-12)
- 2 - Competent: Frequently seen evidence of (total points: 7-9)
- 1 - Novice: Occasionally seen evidence of (total points: 4-6)
- 0 - Unsatisfactory: Not seen evidence of (total points: 0-3)

_____ A. The teacher is committed to all types of students ...

Performance Indicators seen in the TP:

- Activates students' prior knowledge by linking ideas to already familiar ideas and makes connections to their experiences
- Encourages discussion and listens and responds to group interaction
- Shows respect for diverse talents of the students
- Provides for the instructional needs of all students, including remedial and enrichment/extension activities as necessary
- Uses a variety of teaching strategies, including cooperative, peer and project-based learning, audiovisual presentations, lecture, discussions and inquiry, practice and application, and the teaching of others
- Maintains and uses organized records of students and show good organisation skills

_____ B. The teacher knows the subject ...

Performance Indicators seen in the TP:

- Exhibits an understanding of the subject area(s) taught
- Uses appropriate literature and current resources and materials in the subject area(s)
- Selects appropriate learning objectives for lessons consistent with the official course descriptions
- Develops lesson plans that are clear, logical, and sequential
- Develops a variety of clear, accurate presentations and representations of concepts (lessons)
- Provides students with materials and media that are appropriate and challenging for their instructional levels

_____ C. The teacher is able to perform formative and summative assessment ...

Performance Indicators seen in the TP:

- Monitors student understanding on an ongoing basis and adjusts teaching when necessary
- Utilizes multiple assessment practices congruent with instructional goals both in content and process
- Effectively uses both teacher-made and standardized tests as appropriate
- Demonstrates competence in the use of acceptable grading practices
- Provides prompt and meaningful feedback to students about performance and progress incorporates strategies to prepare students for examinations

_____ D. The teacher thinks systematically about his teaching ...

Performance Indicators seen in the TP:

- Evaluates and identifies areas of personal strength and weakness related to professional skills and their effect on student learning
- Sets goals for improvement of skills and professional performance
- Comprehends and applies current literature that enhances the knowledge of educational issues, trends, and practices
- Collaborates with colleagues to improve and enhance instructional knowledge and skills
- Revises classroom practice based on reflection, classroom observation, and feedback
- Seeks feedback