Portfolio as a tool to stimulate teachers’ reflections

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ABSTRACT  Portfolios are increasingly being used to stimulate teachers’ reflections. Frameworks for reflection on teaching often emphasize competencies and behaviours. However, other aspects of teacher functioning are also important, such as the teaching environment and individual teachers’ beliefs, professional identity and mission. In a study among five medical school teachers, we explored how a portfolio stimulated reflections on the various aspects of teaching functioning. Outcomes of written portfolio assignments were collected and analysed to identify examples of reflections on the various aspects of teacher functioning. Examples of reflections on all aspects of teacher functioning were found, although examples of reflections on competencies were easier to find than those on beliefs, identity and mission. This study might help teachers and their trainers and coaches to recognize different aspects of teacher functioning when discussing portfolios for professional development purposes. However, further development of assignments and other methods to stimulate reflections on beliefs, identity and mission are needed. Furthermore, apart from the content of teachers’ reflections, teachers’ reflection processes should be researched, as well as the effects of portfolio meetings with peers and coaches.

Introduction

Portfolios were introduced mainly to assess performance in authentic contexts and stimulate users to reflect on their functioning (Snadden, 1999; Davis et al, 2001; Driessen et al., 2003). Since the first introduction of teaching portfolios in the 1970s, several approaches to portfolio use have been proposed (Wolf & Dietz et al., 1998; Zeichner & Wray, 2001; Webb et al., 2002; Van Tartwijk et al., 2004). Portfolios are increasingly being used as tools to contribute to the development and growth of individual teachers and to the improvement of the teaching profession as a whole (Bird, 1990; Zeichner & Wray, 2001). Teaching portfolios are expected to foster teachers’ awareness of their teaching and the subject matter they teach (Anderson & DeMeulele, 1998; Bartell et al., 1998; Darling-Hammond & Snyder, 2000). When constructing a portfolio, teachers are encouraged to examine their own learning processes and their professional development (Loughran & Corrigan, 1995; Darling, 2001).

Portfolios have been found to be a valuable tool in continuing professional development, because they support active and peer-supported learning and stimulate self-confidence and professional growth (Mathers et al., 1999; Friedman et al., 2001; Gordon, 2003; Rees & Sheard, 2004).

Although it is often emphasized how important reflection, i.e. deeper thinking about teacher functioning, is for teachers, it is not always quite clear what teachers should reflect on within the context of their professional development (Korthagen, 2004). Frameworks for reflection on teaching frequently focus on teacher behaviours (what teachers are actually doing in the classroom, i.e. performance) and competencies (what teachers are potentially able to do). Although it is obviously important that teachers reflect on teaching behaviours and competencies as part of their striving for professional improvement, the recent literature on teaching also points to the relevance of other aspects of teacher functioning. One of these aspects is teachers’ working environment, i.e. course design, institutional philosophy and student characteristics (Ramsden, 1992; Kember & Kwan, 2002). Another aspect that is known to affect teaching are teachers’ perceptions or beliefs about students, learning and knowledge (Kember, 1997; Martin et al., 2000; Hativa & Goodyear, 2002). An important contribution is also made by teachers’ approaches to teaching, their self-concepts and views of their professional role as teachers (Samuelowicz & Bain, 2001; Hativa & Goodyear, 2002). Finally, it is recognized that teaching is impacted by the personal aims and goals teachers pursue in their teaching (Hativa & Goodyear, 2002).

In line with recent developments described in the educational literature, Korthagen introduced a model for

Practice points

• Teaching portfolios are frequently used to stimulate reflections on teaching. Reflection frameworks often emphasize behaviours and competencies. However, the environment, beliefs, professional identity and mission are also important subjects for reflection.

• This study provides illustrative examples of how teachers reflect on various aspects of their functioning. Reflection may further recognition of these aspects so that they can be used in portfolio conversations aimed at professional development.

• Further ways to stimulate reflection on teacher beliefs, professional identity and mission should be sought. Apart from the content of reflections, teachers’ reflection processes and the effects of portfolio meetings with peers and coaches should be researched.

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teacher reflection which incorporates these various aspects of teacher functioning (Figure 1) (Korthagen, 2004).

Some of the aspects in the model are generally accepted as relevant parts of the teaching context, such as the environment, behaviours or performance and competencies. Other aspects, such as beliefs, professional identity and mission are relatively new as subjects of attention for reflective teachers. 'Beliefs' relates to teachers’ perceptions and ideas about students, learning, etc.; professional identity refers to teachers’ approach to teaching, their self-concepts and, more specifically, how they perceive themselves as teachers and the teacher role in general. Finally, mission is concerned with the aims and goals teachers pursue in teaching. It relates to the ideas that have led a person to become a teacher and to the broader goals teachers want to attain in their work. It should be noted that the inner aspects included in the model, i.e. beliefs, professional identity and mission are related to the individual teacher as a unique person. These inner aspects are less concrete and easy to observe than the outer aspects of the model. They also tend to remain implicit and not enter into teachers conscious awareness. Nevertheless, both the inner and outer aspects have a major impact on teacher performance and development and thus can be regarded as targets for change. For example, a teacher who sees the role of the teacher predominantly as that of information provider might extend his/her role perception by additionally incorporating the role of facilitator of student learning (professional identity). This change may be triggered by a change in another aspect, e.g. views about student learning (beliefs), or the realization that the ultimate goal in teaching is not to provide information, but rather to foster students understanding of a subject (mission). Thus, all aspects of teacher functioning, both the inner and the outer aspects, are important and interrelated. To improve and develop as a teacher, teachers should be conscious of all aspects that affect their functioning. This means that all these aspects should be subject of reflection.

We explored the use of a portfolio aimed at enhancing reflection by teachers in order to identify aspects on which teachers reflect in their professional work. We used Korthagen’s model to analyse teachers’ reflections, because it comprises a variety of both inner and outer aspects, rendering it a useful tool to help teachers, teacher trainers and coaches to discover which aspects of teacher functioning are relevant subjects for conversations about teaching portfolios within the context of professional development. Because Korthagen’s model is relatively new, the aim was to give illustrative examples of how teachers reflect on various aspects of their functioning included in the model.

**Methods**

**Context of the study**

At Maastricht Medical School, we developed a teaching portfolio intended to stimulate teachers to reflect on the aspects of teaching included in Korthagen’s model.

In order to structure the portfolio, we asked teachers to focus on different teacher roles, i.e. those of the person as a teacher, expert on content knowledge, facilitator of learning processes, organizer and scholar/lifelong learner (Tigelaar et al., 2004). The role the person as a teacher is related to the inner aspects of teacher functioning in Korthagen’s model, i.e. beliefs, identity and mission. The other teacher roles are related to competencies.

**Participants**

The participants in this study were five experienced teachers at Maastricht Medical School. They were selected at the suggestions of the chairman of the Department of Educational Development and Research and the scientific director of the Institute for Medical Education. Participants had to meet the following criteria: a manifest interest in teaching as evidenced by teaching activities and willingness to participate in professional development as a teacher motivated by the wish to pursue a teaching career. The chairs of the prospective participants’ departments were consulted and participants were invited to take part in the study.

**Instruments**

In this study, all the written portfolio assignments were approached as reflections on teacher functioning. In order to gain insight into the portfolio process, we collected the teachers’ final portfolio assignments as well as data about the process of portfolio construction. In this way, we obtained portfolio data comprising written portfolio assignments and final reflective portfolio assignments. Firstly, the teachers were asked to describe the course of their teaching career. They were also asked to describe critical incidents in their development as a teacher, set learning goals, select artefacts in evidence of their teaching activities, compose a profile of a good teacher and reflect on that. The final assignment required them to compose a reflective portfolio, using the previous assignments as points of departure.
The assignments were intended to stimulate reflection on all aspects of teacher functioning as defined in Korthagen’s model. However, the critical incidents assignment was focused on the environment, behaviour, and competencies. Table 1 presents brief descriptions of the assignments.

Table 1. Short description of portfolio assignments.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Short description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time line</td>
<td>Describe experiences from your career as a teacher; mention both high and low points.</td>
</tr>
<tr>
<td>Critical event</td>
<td>Describe a difficult situation in your teaching career.</td>
</tr>
<tr>
<td>Learning goals</td>
<td>Analyse teaching situations for each role that require improvement; suggest alternatives</td>
</tr>
<tr>
<td>Evidence</td>
<td>Provide evidence for each role and answer the questions: what is it? why did you choose it? what does it prove?</td>
</tr>
<tr>
<td>Competency profile</td>
<td>Design a competency profile for a teaching position you would like to fulfil, taking the five roles as starting points, and analyse your teaching performance on the basis of this profile.</td>
</tr>
<tr>
<td>Final portfolio assignment</td>
<td>The final portfolio should contain: curriculum vitae, analysis of teaching performance for each role, evidence, conclusions and plans for further action.</td>
</tr>
</tbody>
</table>

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Analysis

The analysis of individual teachers’ completed assignments and reflections included in the final portfolios was aimed at identifying reflections on the different aspects of teacher functioning in Korthagen’s model (Patton, 1990; Korthagen, 2004). For the analysis of the written portfolio documents we used a top down strategy consisting of five phases (Miles & Huberman, 1994). The different categories to which reflections were assigned in the analysis were the aspects of teacher functioning in Korthagen’s model. In the first phase, all the assignments were read to obtain a broad view of how they might be categorized. In the second phase, the assignments were read again and different fragments were distinguished according to the rule that a new fragment was found as soon as there was reason to use a different category label. This initial labelling was performed by the first author. In the third phase, examples of the initial labelling were discussed by the first, second, and third authors to enhance the quality of the analysis. This discussion resulted in cues for recognizing and labelling fragments to a certain category. Fourthly, in order to improve internal validity, we triangulated the results of the analyses of the different assignments (Patton, 1990; Miles & Huberman, 1994; Yin, 1994). In the fifth phase, we selected the most illustrative examples of teachers’ reflections on the different aspects of teacher functioning.

Results

The analysis yielded examples of reflections on all aspects of Korthagen’s model, although reflections on competencies proved easiest to identify. We present cues for recognizing and labelling fragments to a certain category as well as illustrative examples of reflections on each of the aspects of teacher functioning.

Environment

Teachers’ reflections on their working environment revealed both enabling and disabling factors. Institutional characteristics and issues related to facilities and student input are examples of aspects in the environment that can facilitate or constrain teaching.

‘We concluded that I’m currently taking on a lot of tasks. This is due to the huge staff shortage in our department. As one of the senior members of staff I find that many demands are made on my time. Unfortunately, this often goes at the expense of teaching’.

‘This year one of the groups I facilitated questioned whether the group meetings were worthwhile. They enjoyed the contacts with simulated patients and they saw the importance of these contacts, but they thought that (too) little added value was provided by both the discussions of these contacts in the group sessions and communication skill training’.

‘I assumed that a computer would be provided in the lecture hall, because I had prepared a power point presentation and had spent quite a lot of time preparing that. Well, it turned out there was no computer. And no assistance either. There wasn’t even a telephone nearby. So, I could not start the lecture’.

Behaviours

Reflections on performance or behaviours were often related to concrete situations and to teachers’ responses to influences from the environment. These reflections were characterized by the frequent use of verbs.

‘Remaining calm and trying to get the students to quiet down (sometimes raising my voice). Sometimes lowering my voice to make it difficult for students to hear what I’m saying. When I do that students start tackling each other about their conduct’.

‘When I feel that my message is not getting across, I keep trying to find ways to explain things more clearly’.

‘I have even developed my own system in which I first let students talk about a subject and then try to steer them into a certain direction by asking all sorts of questions. Finally, I tell them about my own experiences in practice and try to make them understand the difference between theory, which is often quite straightforward, and the complexities of real practice’.
Competencies
When reflecting on their competencies, teachers often use terms like ‘I am able to…’, ‘I am…’, referring to the things they would be able to do.

‘My lectures generally get good ratings. It is my impression that I’m quite convincing and I have managed to build on that in the course of time’.

‘I am able to make students the centre of attention and I can give good supervision within the undergraduate curriculum. I think I need to know more about group processes in order to be better able to supervise students, especially more advanced and mature students’.

‘I think that my main strength lies in encouraging students to do research. Pointing them in the right direction’.

Beliefs
Reflections on beliefs are often formulated in terms of ‘I think…’, ‘In my opinion…’, ‘I am convinced…’. These reflections are generally not so much related to specific situations but refer to teaching in general, as is reflected by terms like ‘most’, ‘in general’.

‘I find that students are generally eager to learn and prepared to take on extra work. Often more so than I would have thought. For instance, when additional teaching was introduced in our department, I asked students to prepare a case to present to their colleagues using a picture with additional information about signs and symptoms. I am often surprised at how much time they spend on that. Occasionally, I do find that students fail to appreciate how busy we are as clinicians’.

‘In principle, I’m convinced that students are responsible for their own learning, but in practice I find it difficult to leave the responsibility with them’.

‘In my view problems should not be brought to a head when it is impossible to work constructively with colleagues. When this happens, it is probably better to ask for help from a colleague and this should not be seen as a defeat’.

Professional identity
Reflections on professional identity relate to teachers’ approach to teaching and how they perceive the role of the teacher. Teachers often use the word ‘self’ and reflections on professional identity tend to be even more general than those on beliefs, as is evidenced by the frequent use of the word ‘always’.

‘I always try to treat students more or less as equals, rather amicably. However, I do let them know that I am the one with the most knowledge and that it is up to them to try and extract that knowledge from me. That means that whenever possible I try to work interactively and not from an old-fashioned teacher student pattern’.

‘I see my role as a teacher primarily as a facilitating one. I try to be open to students and stimulate them to become more and more independent’.

‘I treat students as I want to be treated myself: openly, honestly, on an equal footing. I want to lend them a helping hand’.

Mission
When reflecting on the aspect of ‘mission’, teachers talk about the ultimate goals they pursue in teaching. These reflections are often highly generalised and contain a lot of superlatives, such as ‘most important’, ‘most inspiring’.

‘I hope that we have developed a dermatology course that will enhance students knowledge of skin diseases. At the end of the day I think that’s one of my main goals in teaching students’.

‘One of the most enjoyable and motivating aspects of my work as a teacher is every time when I see the penny drop for students’.

‘Because I have profited a lot from the communication skill training I was given and have learned that communication skills are of vital importance for the doctor patient relationship, I’m very keen to heighten students’ motivation for communication skill training’.

Conclusions
This study was aimed at exploring how a portfolio stimulates teachers to reflect on various aspects of their functioning as teachers. The study was not intended to provide quantitative data about teachers’ reflections, but rather to shed light on the ways in which teachers reflect on various aspects of their functioning. The qualitative analysis of the portfolio assignments yielded examples of all aspects of teacher functioning included in Korthagen’s model, albeit that examples of reflection on competencies were easiest to find. This may be attributable to the attempts to structure the portfolio by asking the teachers to focus on different teaching roles, i.e. those of the person as a teacher, expert on content knowledge, facilitator of learning processes, organizer and scholar/lifelong learner (Tigelaar et al., 2004). Being asked to think in terms of these roles, the teachers may have been stimulated to focus on what they might be able to do, i.e. their competencies. Another explanation might be that teachers find it safer to reflect on the outer aspects of their functioning than on the inner aspects, which include motivations, feelings, thoughts and the unique personality of the teacher as an individual. Moreover, being deeply rooted in the teacher’s personality and often remaining implicit, the inner aspects of teacher functioning may be more difficult to raise to teachers’ awareness. More time might be needed to stimulate teachers to reflect on these inner aspects of their functioning. However, we did identify examples of reflections on aspects like beliefs, identity and mission. The examples of reflections on inner aspects of teacher functioning that we found illustrate important issues with regard to teacher functioning and development, including teachers’ ideas about students.
and student learning, their role perceptions and reasons for wanting to be a teacher. These examples confirm the added value of the inclusion of these inner aspects of Korthagen’s (2004) model of reflection on teaching.

The main limitation of this study is the small group of participants. For generalizable results a larger study population will be needed. In addition, generalizability of the study is reduced by the selection criteria of this study, which made recruitments from among the best teachers. A second shortcoming was the qualitative data analysis. A larger group of participants would have enabled a more thorough investigation with an additional cross-case analysis comparing different individual portfolio assignments and grouping them together by category so as to reveal patterns (Miles & Huberman, 1994; Yin, 1994). Third, the results show that it was difficult to unambiguously categorize the fragments and make distinctions between the various aspects because they are interrelated.

Despite these limitations, we believe the results offer practical suggestions for teacher training and coaching. Firstly, the results appear to clearly indicate that the portfolio is a useful tool to stimulate teachers to reflect on different aspects of teaching. The portfolio assignments proved helpful in supporting the process of portfolio construction and they provided cues for teachers to gain insight into their own learning processes and professional development (Loughran & Corrigan, 1995; Darling, 2001). Secondly, this study might help teachers and their trainers and coaches to recognize different aspects of teacher functioning when discussing portfolios for professional development purposes. The outcomes of portfolio assignments may provide useful starting points for portfolio meetings, courses and discussions to deepen teachers’ reflections and stimulate their professional development, which would enhance the value of the teaching portfolio (Wolf & Dietz, 1998). Factors that are out with the control of the individual teacher, e.g. influences to the environment which lay beyond the teacher’s power, should not be the main focus on in these conversations. Rather, these conversations should be focused on aspects of teacher functioning that are in with the control of the individual teacher, because the main purpose is to promote change, improvements and development.

More research will be needed to determine ways to adapt the assignments so as to stimulate reflection on the inner aspects of teaching and raise teachers’ awareness of their personal beliefs, professional identity and mission as a teacher. In addition to the assignments, other methods might be developed that encourage reflections on the inner aspects, something that was also acknowledged by Korthagen (2004). Thirdly, interactions with peers and coaches during the process of portfolio construction and their effects on teachers’ reflections should be researched. Finally, it would be interesting to focus not only on the content of teachers’ reflections, i.e. what teachers reflect on, but also on the depth of teachers’ reflection processes, i.e. the extent to which teachers move beyond the mere description of events to try and find possible reasons for and relationships between events or consider different opinions (Mansvelder-Longayroux et al., 2002). Finally, since reflection is not a goal in itself, but is rather supposed to stimulate teachers to change and improvement, further research should focus on examples of how the reflective process has changed various aspects of their teaching.

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