The use of portfolio learning in medical education

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SUMMARY  Portfolio learning is a method of encouraging adult and reflective learning for professionals. Derived from the graphic arts it is based on developing a collection of evidence that learning has taken place. Portfolios are being used more in nursing and medical education. They are excellent tools for assisting formative assessment and professional development. They are also being developed for formal assessment processes, being seen as one form of authentic assessment particularly suited to evaluating the application of theory in practice. There are, however, difficulties associated with the lack of standardization of the content of portfolios in terms of developing assessment instruments. As long as formal assessment is based on the philosophy of measurement, portfolios will be difficult to assess and will require the development of non-comparative methods of assessment. This article describes some of the history of portfolios, how to develop a portfolio to assist learning or for professional development purposes and discusses some of the current thinking about the use of portfolios for formal assessment.

What is portfolio learning?

Derived from the graphic arts, the term portfolio learning has come to mean the collection of evidence that learning has taken place. In practice portfolios include documentation of learning, and an articulation of what has been learned. The documentation can include:

- records of events or experiences;
- lists of critical reviews of articles read;
- projects carried out;
- teaching sessions attended;
- videoclips, educational events and patients seen.

The articulation of what has been learned may include:

- written reflective accounts of the events documented;
- personal reflections kept in the form of a journal or diary.

These would include reflections on problem areas, what has been learned, what has still to be learned and plans for how new learning will be tackled. The system works well when it operates through the interaction of a learner and supervisor using the material as a catalyst to guide further learning. It is essential that the portfolio does not become a mere collection of events seen or experienced, but contains critical reflections on these and the learning that has been made from them.

The background to portfolio learning in medical education

Portfolios are not new, but have been an integral part of the graphic arts in tracking the professional development of artists for a long time. More recently they have been used in education in general, and now in medical education, as a means of encouraging professional growth. They are also attractive as assessment tools in that they have a potential to assess clinical performance over a period of time, constituting one form of authentic assessment—assessment that looks at performance and practical application of theory.

Criticism of medical education from bodies such as the General Medical Council in the UK (General Medical Council, 1993) has resulted in a search for learning strategies that promote adult and learner-centred ideas, on the basis that these will stimulate 'deep' learning. In other words learning which impacts on the behaviour, intuition and performance of the learner. Adult, self-directed and reflective learning are deemed less likely to occur in environments where passive learning is encouraged, for instance passive learning may be effective for acquiring the type of knowledge that multiple-choice examinations require, but may not encourage professional and personal growth. Educationalists such as Brookfield (1986) and Boud (Boud & Walker, 1993) suggest that educational programmes should be interactive, include reflective components and be related to experience. By including these components learners are given more autonomy and are encouraged to take charge of their own learning. Portfolio learning in medical education has developed as one response to these ideas.

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Portfolio learning: its development in the American school system.

Sparks-Langer & Colton (1991), two American educationalists, name Dewey as one of the first proponents of reflective thinking in his book *How We Think* (Dewey, 1933). His ideas do not appear to have been widely accepted until Schön began to write about reflective practice in education and other professions (Schön, 1983, 1987). Portfolios as mechanisms to enhance reflection were developed within the North American school system—though it could be argued that portfolios in terms of the graphic arts have been in existence for many years. A working definition of a portfolio was given by Paulson et al., (1991); “A portfolio is a purposeful collection of student work that exhibits the student’s efforts, progress and achievements in one or more areas. The collection must include student participation in selecting contents, the criteria for selection, the criteria for judging merit and evidence of self-reflection.” In this definition portfolios are more than mechanisms to promote reflection, they become personal collections of educational experiences over a period of time. There have, therefore, been attempts to develop them into systems of assessment, on the assumption that they provide a more equitable and sensitive portrait of what students know, and are able to do, than do traditional assessments. In this context portfolios are now widely used in school education in the USA (Herman & Winters, 1994).

The rapid adoption of portfolio learning, including its use in assessment, seems, however, to have been implemented with little true evaluation of the use and development of portfolios. These concerns have been raised in the US school system by Herman & Winters (1994) who reviewed the literature on portfolios being used for assessment and found that only seven out of 89 articles reported technical data or used accepted research methods. They questioned whether portfolio assessment techniques provided consistent, meaningful and reliable estimates of what students know and can do. They did note that reliability had been achieved in projects in Vermont and Pittsburgh which used portfolios in elementary schools to assess creative writing. To achieve this the portfolios were evaluated by two external raters using scoring systems based on categories of achievement such as "accomplishment in writing, use of process and resources and growth and engagement". Consensus amongst raters was not achieved easily and depended on clearly articulated criteria, effective training, and rubrics that reflected shared experience, common values and a deep understanding of student performance. This debate echoes through much of the educational literature where portfolios have been used to stimulate learning, but have run into problems of standardization when attempts to use them for formal assessment have been made.

Nevertheless the implementation of portfolio assessment seems to have influenced the activity of classroom teachers. In Vermont, for example (Rezz et al., 1993) teachers reported using more problem-solving strategies and small-group work in class, while school principals noted that the portfolio programme had benefits on the curriculum in terms of initiating changes in content and instructional strategies. Many of the principals interviewed in this project suggested that portfolios had value as an educational intervention to promote change. Aschbacher (1993), in an action research study, suggested that teachers' involvement in the development of alternative assessments influenced their instructional practices and that their expectations of their students increased in terms of expecting more thinking and problem solving.

The cost of these developments has been a substantial time commitment for staff in terms of learning about portfolios, developing portfolio-based lessons and assessing the finished products (Aschbacher, 1993; Retz et al., 1993). These elementary school projects lead to the conclusion that portfolio-based learning, in the school context, is challenging for teachers and students, can dramatically alter the climate of the classroom and the nature of teacher/student interactions and has brought assessment into the classroom with students and teachers actively engaged as they generate and apply criteria to each other's work.

Portfolios in nursing and medicine

In the UK portfolios have been adopted with enthusiasm by the nursing profession and are now used for both formative and summative assessment in several nurse and midwifery training institutions (Jasper, 1995a) and have also been supported by the UK Central Council for Nursing and Midwifery to track professional development (Jasper, 1995b). Mitchell (1994) has commented, however, that there has been little critical appraisal in the literature on the use of portfolios and highlighted several key areas of concern:

- There may be conflict for portfolios serving both the purposes of individual learning/assessment and large-scale assessment.
- Can portfolios be assessed if the work is not standardized?
- What criteria should be involved in making judgements about students' attitudes, feelings and behaviour?
- What about issues of privacy and confidentiality as some portfolios contain highly personal material?

She then described a small interview study of post-registration midwives and their teachers. From this the tutors felt that a portfolio was a valuable learning tool from their point of view and that of their students. A number of the students felt that keeping a portfolio helped them in their learning and was a fair assessment tool, but the majority did not. The main problems for students were uncertainty regarding what was expected of them and anxiety about recording personal feelings. In Mitchell's study the portfolio did not fulfilling the promise suggested in the theoretical literature, though she comments that a small sample and inexperience of tutors and students needed to be taken into account in interpreting her findings. Glen & Hight (1992), writing on the place of portfolios in nursing and midwifery education in the UK, also raised the question of whether the main function of portfolios was that of a catalyst for educational change, in other words was the process of developing portfolios more important than the product.

Portfolio-based learning has now been actively promoted in general practice in the UK. The Royal College of General Practitioners published an occasional paper (Working Group on Higher Professional Education, 1994)
extolling the virtues of such a system in both vocational training and in higher professional training. Others (Al-Sheri et al. 1993a, 1993b) have argued persuasively for the adoption of experience-based learning and workplace learning in continuing education, for which portfolios are seen as one tracking mechanism. In addition to this the present development of recertification in general practice in the UK considers portfolio-based recertification as one option of a menu of choices. In the realms of higher professional training portfolios were used as part of the evaluation of a higher professional course for general practitioners (Pitts, 1995). In this case they were submitted to the Regional Adviser’s department for assessment for Postgraduate Educational Allowance (PGEA) accreditation purposes; though Pitts does not say how they were assessed, the emphasis seems to have been on completing the course and writing the portfolio rather than on anything else. A similar system was developed and rigorously analysed by Al-Sheri to determine its effect on reflective learning, with the conclusion that reflective learning was effective using a portfolio type of system and could be used for postgraduate training purposes (Al-Sheri, 1995). Portfolio development in general practice has continued with descriptions of portfolios being used to support continuing education for established general practitioners in which practitioner and mentor work together, the practitioner then submitting a portfolio which is assessed against a number of criteria to allow the award of postgraduate education credits (Treasure, 1996; Challis et al., 1997).

It is perhaps important, at this point, to emphasize the difference between portfolios and the log-books that have been introduced into some higher specialist training programmes. Such log-books are collections of tasks carried out, they do not contain critical reflections and may be seen as chores rather than as a way of stimulating learning. This may be why some appear disenchantment with log-books as learning and assessment tools. Portfolios contain critical reflection on practice and as such challenge the learners’ performance and learning in a way that log-books do not.

These activities seem to have developed a momentum of their own, mirroring the earlier development of portfolio learning and assessment in both school education and nursing. Despite the popularity of portfolio-based learning amongst educationalists, theorists and course organizers there still seem to be a number of outstanding questions:

- What do learners think of portfolio learning?
- What is the effect of portfolio learning on their education?
- Is there a valid assessment component?
- Is there a place for these ideas in general medical education?

These questions were addressed in an action research project carried out in two Scottish General Practice Training Regions (Tayside and Highland) which has helped develop a number of principles concerning how portfolio learning can be developed in general practice and whether it has a place. The insights developed in this project have general themes which can apply to other regions and also to other disciplines. The principles which are outlined later in this article were all developed through extensive interviews and field testing of a portfolio package originally developed with trainers and general practice registrars (Snadden & Thomas, 1998; Snadden et al., 1996) which was based on the concepts of adult and reflective learning as described by Knowles (1990) Brookfield (1992) and Schön (1987).

**Developing a portfolio in medical education**

*What does a portfolio look like?*

It really does not matter as long as the user is happy with it. Portfolios range from simple notebooks and diaries to larger A4 folders and computer-held files. Some learners prefer to be given something and an A4 sized file with a diary insert has been welcomed by many; however, being prescriptive can generate resistance and flexibility over format is important.

*What is in a portfolio?*

The components of a portfolio described here are based on the concepts of adult and reflective learning. Throughout learners are asked to identify their own needs and agendas, often through reflection on their own clinical practice and experiences they have in their learning period. This type of approach is difficult in isolation and a tutor, trainer or mentor is important to help any learner think through and reflect on experiences, particularly to draw out any learning points from them. This relationship is easier to achieve in a one-to-one relationship, for example in the general practice training year, than it is in many other medical educational settings. With this proviso portfolios can contain virtually anything, but the emphasis is on collecting evidence that learning has taken place. The following are examples of what a portfolio can contain:

- critical incidents of events with patients;
- a reflective journal or diary;
- tutorials and learning plans, and reflection on them;
- routine clinical experiences;
- exam preparation material;
- video recordings of consultations and other relevant material;
- audits and project work;
- critical reviews of articles;
- feedback material;
- management material.

These points are expanded below.

*Critical incidents of events with patients.* Critical incidents are those incidents in a working day that are memorable for going well or going badly. For example, a young doctor may see a patient with a new diagnosis of atrial fibrillation. The doctor notes down some brief details of the patient because he or she was unsure about whether to anti-coagulate the patient or not. Later this incident is used in a teaching session and the exploration of the doctor’s uncertainty results in defining the gaps the young doctor has and how they can be filled. This is later revisited by the pair to see if the doctor has achieved the goals set in the plan. For the doctor this means that the learning is linked to the patient who was seen and that experience will help the doctor when next faced with a patient with a similar problem. Critical incidents often encompass the spectrum
of a doctor’s experience. All that needs to be noted is a brief résumé of what happened. They can then be used by the learner and the teacher as material in a tutorial. This means the tutorial is focused around the learner’s needs and experiences. Such incidents allow the in-depth exploration of a doctor’s clinical thinking and actions and highlight areas for further learning. They can also lead to discussion of the doctor’s emotional reaction and attitude to problems and issues, an area often difficult to explore fully. For assessment purposes much of the thinking and analysis of the incident would need to be committed to paper. This would then be evidence of the thought processes involved, the learning needs identified and how these needs can be met.

A reflective journal or diary. Again this does not need to be extensive, but does require some discipline in committing thoughts to paper. The benefit of this is that it encourages learners to reflect on what they are doing, what they are finding difficult and what they are trying to plan for. For example, when a young doctor moves from the fairly understood culture of hospital to the culture of uncertainty that is general practice he/she often struggles to make sense of the change and cope with his/her own feelings of inadequacy. Reflective journals were an important bridge in our study helping doctors orientate themselves, giving them time to think through what they were achieving in the busy culture of general practice and planning for future activities. These journals only worked if the content and format of them was completely owned by the learner. Similarly, who saw the content also had to be controlled by the learner. All doctors who kept journals in our study said they would have kept different and less personal comments if ‘others’ had access to them. However, many used the journal with their trainers to raise difficult issues and some were happy to share their journals openly with others. It was the initial groundrules and feeling of ownership of the learner that were important. This raises the issue of the place a learner-centred portfolio has in assessment.

Tutorials and learning plans. Descriptions of tutorials that have happened and the follow up of learning needs that have resulted from them can be useful, but more important are some brief reflective notes on which areas within the tutorial were identified as strengths, and which as problem areas for the particular learner. This retains the learner-centred philosophy of the portfolio concept. The problem areas can act as a guide for further tutorial work, further reading or the identification of other learning experiences. If these are collected as action points or highlighted in some way they can be revisited at a later date to see if learning has taken place.

Routine clinical experiences. There is a lot of routine work in medicine, therefore it is important to focus occasionally on routine incidents in the same way that critical incidents are described above. The reasons for this are that critical incidents are those which the learner finds worrying, but routine incidents may allow the emergence of areas in the learner’s experience which she or he feels comfortable with, but in which there are learning gaps. In some circumstances the topics to be gathered could be prescribed, for instance wound management and pain scoring for students in surgical attachments.

Exam preparation material. Exams and assessments are an inevitable part of education. Most students and young doctors prepare for examinations through course work and material collected from this and reflection on these can help in their preparation. There is a conflict between the idea of developing a portfolio to track professional development and growth and having to pass compulsory assessments. At present these two ideas are separate in the minds of students and young doctors and as exams approach these inevitably dominate their agenda leaving less time, if any, for critical reflection. One way around this divide is to include examination-appropriate material as part of a portfolio.

Video recordings of consultations and associated material. Communication training is now commonplace in medicine and videos of simulated and genuine clinical consultations are used more and more to teach and assess progress in this area. Such material can form a valuable part of a portfolio as it allows the learner to track his/her progress and demonstrate his/her competence over a period of time.

Audits or other project work carried out. Similarly, audits and other project work can form part of a portfolio, again giving evidence of work carried out. Like all material collected, however, reflective comments on the process of carrying out the audit and what has been learned from it are important as evidence not only of having completed the task, but of having understood and assimilated the learning made from it.

Articles and texts reviewed critically. Current emphasis on critical appraisal suggests that all students and doctors should be able to review articles and books critically. Collecting these reviews in a portfolio gives evidence of this.

Practical tips. The portfolio can also be an excellent medium for collecting ideas and material about other issues such as management. This, coupled with the suggestions above, means that portfolios can become a resource for the learner in the future.

Anything else. The important thing is to give learners freedom in what they collect and how, so anything else they wish to include can become part of a portfolio.

How can the material in a portfolio be used?

Portfolios can be used in a number of ways:

• as a method of personal development and a way of tracking progress;
• formatively as a learning tool to stimulate discussion and to plan future learning;
• as a formal (summative) assessment tool.

As a method of personal development and a way of tracking progress. Portfolios can be used for self-learning as a per-
sonal activity without support and input from a tutor or mentor. Used in this way learners collect material to track their own progress. This would include a personal reflective journal or diary to which they would commit thoughts and feelings. Such portfolios contain rich material which allows the development of the learner to be tracked over a period of time. Lack of tutor support, however, will mean that few will create a portfolio. In setting up any system based around portfolios an effective network of tutors and mentors will be important in determining the effectiveness and success of the system.

**Formatively as a learning tool to stimulate discussion and to plan future learning.** It is possible to collect lots of material and wonder at the end of it all what was the point. The content of any portfolio is only as useful as the process by which the materials is used. Although reflecting to oneself through a reflective journal is therapeutic for some, real and challenging reflection requires another person, the trainer or tutor. The trainer’s role in this type of learning is crucial and is based on the idea of helping the young doctor or student think through and explore what has been happening to them not only at a practical level but at an emotive level. This role has been well described by the Royal College of General Practitioners (Working Group on Higher Professional Education, 1994) and uses the following steps.

**Step 1**

The learner:
* identifies an experience—this may be from an entry in the portfolio,
* describes it.

The trainer:
* listens actively—this means using verbal and non-verbal encouragement;
* is not judgmental;
* avoids interpretations;
* only challenges statements that are at odds with behaviour.

**Step 2**

The learner:
* reflects on the experience trying to identify what has been learned.

The trainer:
* clarifies;
* summarizes;
* reflects what the learner has said;
* does *not* interpret.

**Step 3**

The learner:
* identifies new learning needs;
* devises a plan to met these.

The trainer:
* facilitates this process;
* may now suggest answers or offer advice, but must make it clear that there may be other answers.

Here are some examples of the sorts of questions that can be helpful in this process:
* What happened?
* What did you notice/find intriguing/exciting/worrying?
* What could you learn from this?
* How would you go about learning it?
* How would you know you have learned it?

At the end of all this it is important to commit to the portfolio some sort of learning plan. Writing down the next steps in a learning process is an important way of checking up later to see what has happened or what action has been taken. In addition to this the portfolio can give a valuable opportunity to stimulate feedback. Feedback on how a learner is seen to be getting on is important to learners and often difficult for teachers to carry out. Portfolios can be used to stimulate effective feedback sessions by including check points in a training period. For example, an agreement to meet every three months to discuss what is going well, problem areas and how the learner is seen by the colleagues he or she is working with can be extremely helpful to any learner. This is a topic easy to avoid if the learner is seen to be particularly good (complacency) and if there are difficult problems in the areas of professional attitudes or behaviour (collusion).

**As a formal (summative) assessment tool.** Portfolios are attractive as assessment tools as they appear to be one way of assessing performance in practice over a period of time, in other words they assess the application of theory and the performance of the student or doctor. This is now called an authentic assessment. It must be stressed, however, that if portfolios are to be used for formal assessment purposes learners may keep quite different material than if the portfolio is to be used for purely learning purposes. Jasper describes portfolios being successfully used for both formative and summative assessment in nursing (Jasper, 1995b), but our own work with general practice registrars was clear in its description of the negative impact formal assessment would have on the material collected. For example, learners were unlikely to collect in a reflective journal incidents which had not gone well. Such incidents are a rich source of learning and do give insight into the development of a young professional, but it is understandable that young doctors would not wish to allow such material to be used for assessment purposes as the traditional view of assessment in medicine is that of a competitive examination that seeks excellence. Given the richness of the material that portfolios can contain there is potential for portfolios to be used in imaginative and authentic assessments, though some methodological problems need to be overcome.

One of the reasons that portfolios are difficult to assess is that they contain personalized material with few points of objectivity that allow comparisons to be made between students or doctors. Assessment is also labour intensive and requires careful reading and response to a learner’s objectives and evidence of whether they have been met.
This means they are effective as mechanisms to support and facilitate personal learning and growth, but cumbersome in comparative assessments. They may be best used as additions to assessments to illustrate particular aspects of personal growth that cannot be demonstrated by traditional assessment procedures.

There is little research available in the literature on the technical quality of large-scale portfolio assessments, and what has been done is largely within the American school system. One such example (Novak et al., 1996) developed a rubric on a scale of 1 to 6 encompassing the spectrum of ‘exceptional achievement’ to ‘minimal evidence of achievement’ with descriptors for each under the headings of Focus/organization, Development and Mechanics. This was shown through testing to be valid and reliable, but the correlation patterns were not clear. This illustrates the difficulties in assessing portfolios and how new methods of assessment will need to be developed in the context of new ideas on learning. Camp (1993) also concluded that portfolios seem to offer the most opportunity for learning when they invite student ownership and that they have a huge potential for assessment in the context of adult and self-directed ideas about learning. But that concept of portfolios, which means student-selected non-standardized work, means that the present dependence of assessment on notions of measurement and validity is challenged. This in essence means that the effective assessment of portfolios will continue to be difficult if we remain trapped within our traditional view of assessment. In other words, assessment based on comparing students with each other and with issuing grades or marks does not fit easily with portfolios which are essentially non-standardized. Portfolios will remain difficult to assess until new non-comparative assessment methods are developed. While the emphasis on grading, excellence and comparison between students and doctors remains in assessment and medicine, it is likely that portfolios will have a greater place as a learning tool than as a summative assessment tool, but as a learning tool they may have considerable influence on a learner’s performance in summative assessments. If, however, they can be grasped to develop innovative assessments they may have the potential to influence the type of learning in medical curricula to encourage the development of reflective practitioners.

_How do you introduce the concept of portfolios?_

A lot of the changes that are happening in medical education are because many people have felt that undergraduate education, in particular, is dominated by too much emphasis on knowledge acquisition. Nevertheless many graduates have developed and learned within such a framework and can find the idea of taking charge of their learning or of looking at their professional practice critically somewhat of a threat. Also, as portfolios can be used in a number of ways it has to be absolutely clear for students and doctors what the portfolios will be used for and how they are expected to use it. For this reason the early establishment of some ground rules is very important.

_Ground rules._ The following questions are important and ground rules relevant to them need to be developed before the portfolio is started:

- Who sees what is written in the portfolio?
- Who can write in a portfolio?
- What will happen to the written material?
- Where does assessment fit in?
- When will the portfolio be used and how much time will be set aside for it?
- Where it will be kept?

Here are some ideas on these topics that have come from our research. These may seem a bit restrictive, but they help give learners a feeling of control and confidence at the start of using a new learning system. In practice they become quite open with their portfolios as they represent a record of their development; the ground rules, however, are essential in allowing this openness to develop. The ground rules given were developed in the general practice training year when a learner works closely with a trainer for a year and where the portfolios were not used for summative assessment. As such they are given as examples with a recognition that some modification may be needed in other settings, for example with medical students. The principle of ground rules, however, is essential in any portfolio system.

_Who gets to see the portfolio?_ Given the personal nature of some of the content of portfolios, particularly reflective journals and comments, it is important that they are treated with the same degree of confidentiality as any medical record. The learner needs to decide who sees the contents and why.

The most effective reflective comments seem to be those that both trainer and learner regularly see. Beyond this, material should not be seen by others without the learner’s consent.

_Who writes in it?_ Some portfolios may contain contributions from trainer and learner. These can take the form of descriptions of events and associated feelings written by the learner with short comments from the trainer and a set of action points.

_When will the portfolio be used and how much time will be set aside for it?_ Used imaginatively a portfolio will help develop a curriculum for a student or doctor that is relevant to a learner’s needs. To do this some protected time needs to be set aside each week to complete it—10 to 20 minutes may be enough—and the portfolio needs to be used regularly at teaching sessions to visit recent important events and help plan the next learning steps.

An example of simple guidance that facilitates use is:

- Portfolios are shared at set times.
- Trainer/tutor writes feedback in learner’s portfolio.
- Portfolio owner decides on which contents to share with whom.
- Portfolios are brought to each teaching session.

_What happens to the written material in the portfolio?_ Learners’ portfolios are theirs, they are their own personal
record of their training, it is up to them what happens to them.

Getting started

The breadth and potential of portfolios can make them daunting, so to get started think small: concentrating on critical incidents and reflective journals is enough to get going. More important is the information that is given to faculty and students on how to use portfolios. This can be done through workshops and by providing written guidance notes.

Workshops to familiarize faculty and students

Most doctors and students will not consider portfolio learning unless some of their concerns and apprehensions are dealt with. Bringing groups of learners and teachers together to explore ideas through discussion and challenge is fundamental in dealing with some of these barriers. Portfolios will only work as reflective tools if the learners see some personal benefit and feel they can adapt the system as they please. Workshops can deal with concerns, develop ground rules, refine written notes and help staff practice the three tutorial steps described earlier.

An important part of any workshop is to meet others who have and have not used portfolios. Learners appreciate challenge and debate when they are faced with new ideas. Trainers who have successfully used the system and previous learners who have and have not used portfolios are valuable resources at the beginning of any training period. They can show illustrative material, give tips and advice and explain benefits and problem areas. Equally important is exposure to people from other disciplines, for example fine artists are an excellent way of illustrating how portfolios in painting and design track the development of learners and are used to help them learn from experience and errors (Thomas et al., 1996).

Some frequently asked questions

Does keeping a portfolio take a lot of time?

Portfolios do take a little time, but not as much as first imagined. In many ways portfolios are a parallel to medical records. Few doctors see patients without writing something down about them to help them next time they or their colleagues see a patient. This is part of their professional activities and seen as valuable. In the same ways portfolios can become an integral part of a learning process provided that the mechanism for collecting material is kept close by and regularly used at teaching times. A few minutes at the end of each day is all that is needed. Teachers, however, have to value this activity, encourage it, make sure there is time to write and reflect and ensure the material is used effectively during tutorials and discussions.

Does a portfolio influence relationships?

This is a difficult question to answer. In General Practice Vocational Training in the UK the trainer and registrar are together in an intensive relationship for a year. Where the relationship is good portfolios seem to work well, but they are less likely to do so where the relationship has some problems. Where the relationship is good the portfolio can help the pair to reach the difficult issues of practice quicker than they would otherwise do so.

Is everyone happy to use a portfolio?

No. Some learners have great difficulty seeing the relevance of intense reflective learning. Young doctors have a variety of learning styles and some who have very active styles of learning in terms of their desire to acquire knowledge do not wish to use such a system, often perceiving it as time wasting or not fitting their needs. Equally many feel they remember all incidents that happen and reflect intensely anyway without writing things down. There is no doubt that the attitude of the teacher is fundamental in encouraging and valuing the use and development of a portfolio.

How long do people use portfolios for?

One of the most interesting phenomena of portfolio use amongst GP registrars is the bridging phenomenon (Snadden & Thomas, 1998). The transition from working in the fairly sheltered environment of hospital to the culture of uncertainty and isolation that is general practice is not easy. Portfolios assist in the transition by capturing and supporting the young doctor’s difficulties in adapting to a complex and changing environment. They become less used as confidence grows and as the pressure of end-point assessments increases. For many users the final 6 months of their training year is dominated by exams and their portfolio is used less or not at all, but the support given during the bridging period is important and may be the most important use of a portfolio. Interestingly enough portfolios have a growing acceptance by general practice principals in keeping up to date, with educational allowance credits being given by several training regions in the UK now on the submission of portfolios that are based on guidance similar to that outlined in this article. Sowing seeds in the training year may well help this transition.

Do people feel they have benefited from keeping a portfolio?

For those that keep portfolios there are several benefits. They help focus teaching sessions on material that is relevant to them. For example, critical incidents focus on interactions with patients which are at the forefront of the learner’s mind. In addition to this they help track learning by keeping a record of what the learner has achieved. More importantly the learner can examine areas in which he/she is not confident and plan new learning based on these. For some, reflective journals can be therapeutic and help them deal with problems in their own way. Portfolios explore performance in practice and as such they are a challenging, and confidence building, learning mechanism for both learner and teacher.
Conclusion
A well-completed portfolio will give a young doctor or student and his/her teacher a written record of what has been accomplished in a training period. This may include a record of learning needs and how they were met. It will also have helped produce an individual curriculum for that period—one that fits the experience and needs of the doctor or student. Portfolios need clear ground rules concerning how they will be used and for what purpose they will be kept. If they are being introduced as a new learning method it will also be important to run an effective introductory programme for both learners and teachers. They have potential in authentic assessment, but there is much work to do on developing assessment methods that are appropriate to the unique nature of each portfolio.

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