Portfolios in Saudi medical colleges

Why and how?

Nadia M. Fida, MBBS, CABP, **Muhammad S. Shamim,** FCPS, MHPE.

ABSTRACT

خلال العقود الأخيرة، تطور استخدام ملفات الأعمال في التعليم الطبي لتصبح واسعة الانتشار وتم استخدامها في مرحلتي الدراسة الجامعية والدراسات العليا في جميع أنحاء العالم. إن ملفات الأعمال بوصفها جزء من عملية التعلم وكوسيلة من وسائل التوثيق والتقييم، تدعم كأداة قيمة من خلال نظريات التعلم للكبار والتي تؤكد على حاجة المتعلمين لتوجيه التعلم ذاتياً وللانخراط في التعلم التجريبي. إن التطبيق الصحيح لملفات الأعمال يوفر خبرة تعليمية لا تضارعها فيها أي أداة تعليمية أخرى مفردة. وعلى الرغم من أنه قد تم التشكيك في مدى مصداقية وموثوقية التقييم من خلال ملف الأعمال بسبب طبيعتها الذاتية، فقد تم تطوير طرق للحفاظ على هذه الميزات وتمت مناقشتها في الأدبيات الأكاديمية. تناقش هذه الورقة بعض الأدبيات، مع إيلاء اهتمام خاص لدور ملفات الأعمال كعنصر مهم من عناصر تعلم كتابة الانطباع الذاتي. وتقديم لمحة عامة عن الاستخدام الحالي للمحفظة كأداة للتعلم والتقييم في التعليم الطبي الجامعي في المملكة العربية السعودية، يلي ذلك اقتراح للمبادئ التوجيهية القائمة على البحوث لمواصلة تطبيق نظام ملفات الأعمال في هذا المجال والمجالات الأخرى المماثلة.

Over recent decades, the use of portfolios in medical education has evolved, and is being applied in undergraduate and postgraduate programs worldwide. Portfolios, as a learning process and method of documenting and assessing learning, is supported as a valuable tool by adult learning theories that stress the need for learners to be self-directed and to engage in experiential learning. Thoughtfully implemented, a portfolio provides learning experiences unequaled by any single learning tool. The credibility (validity) and dependability (reliability) of assessment through portfolios have been questioned owing to its subjective nature; however, methods to safeguard these features have been described in the literature. This paper discusses some of this literature, with particular attention to the role of portfolios in relation to self-reflective learning, provides an overview of current use of portfolios in undergraduate medical education in Saudi Arabia, and proposes research-based guidelines for its implementation and other similar contexts.

Saudi Med J 2016; Vol. 37 (3): 245-248
doi: 10.15537/smj.2016.3.12937

A portfolio in education is a collection of evidence that learning, or more generally, an effort to the achievement of a goal, has taken place. In medical education, the concept and practical uses of portfolio have evolved over the last 2 decades, under the influence of various theories of adult and experiential education.[1] This evolution has encompassed workbooks, log books, reflective learning and competence based learning tools, typically with feedback and reflective writing as essential parts of the collection and process that a portfolio both represent and derives from. Currently, portfolios are used in various forms and for diverse purposes in medical education in many parts of the world, and their uses are widely accepted as complementary to other conventional methods of learning and assessment.[2,3] This paper is a part of Ministry-funded project for development and implementation of portfolio in undergraduate medical education. The purpose of this paper is to highlight the strengths and limitations of portfolios as learning and assessment tool in this context, to provide an account of its current use in King Abdulaziz University (KAU), Saudi Arabia, and to propose evidence-based guidelines for its implementation and other similar contexts.

Portfolios and adult learning theory. Portfolio-based learning has shown to be consistent with the principles of andragogy, which was developed by Malcom Knowles beginning in the 1990's[4] as a theory of adult learning with mature learners as the primary target. The theory suggests on the notion that adult learners have to discover why they should be learning something and on the belief that, for these learners, understanding the

relevance of material and concepts is essential. Also, central to andragogy are the notions that adult learners are self-directed individuals who are capable of taking responsibility for their learning experientially, and through problem solving is key to success.[5]

The role of portfolios in learning and teaching. A portfolio is widely regarded as a multipurpose tool that can positively impact learners' and educators' attitudes to learning, teaching, and assessment, as well as increasing their sense of hands-on connection to their work.[6,7] Indeed, portfolio-based learning provides a combination of processes that function interactively to enhance learning, a benefit that may not be achieved through any other single learning tool. These processes include, and contribute to the learner's capacity for, autonomous learning and reflective practice.

Reflection is a metacognitive procedure that creates a better understanding of the self as well on the situation so that future actions can be informed by this understanding. Self-regulated and lifelong learning depend on reflection as an important aspect. Self-reflection, moreover, is also key to developing both a therapeutic relationship and professional expertise.[8] Developing reflective practice, which is an essential feature of portfolio based education, encourages students to think on their experiences, actions, performance, and shortcomings; thereby, preparing them to become independent professionals and to use their learning abilities effectively in postgraduate studies.[9] The benefits of portfolio; however, are not limited to student learning. Student feedback on the learning process provides educators with a basis upon which to reflect on and improve their teaching methods and their methods of discharging their professional responsibilities. This process can improve student-teacher relationships and can provide support for students as they face personal, emotional, and educational challenges of completing their medical education.[10]

The role of portfolios in assessment. The commonly heard phrase "assessment drives learning" refers to the phenomenon by which students tend to learn in ways that are influenced or determined by how their assessment is planned and implemented.[11] In light of this expectation, assessment by portfolio is necessary in order to validate portfolios as a learning tool. Nonetheless, portfolios can add distinctive elements to the overall evaluation of medical students' progress. In particular,

assessment by portfolio adds a subjective element of evaluation of students' learning through experience and reflection. Moreover, as an assessment tool, portfolio can be broad-based, encompassing material that is formative and summative, qualitative, and quantitative as well as considered highly individualized.[12,13]

Although subjective in nature, the credibility (validity) and dependability (reliability) of the portfolio-based assessment process can be safeguarded using established methods.[5] The benefits of portfolio-based assessment build on the value that it adds to the learning process through student-centered, self-directed, thought provoking, responsibility-building approach to professional development.

Importance of portfolios in Saudi Arabian medical education. In 2010, the competence framework for medical graduates in Saudi Arabia known as the Saudi-Meds was established to guide curriculum development and assessment, as well as to ensure that Saudi medical education adapts to the changing needs of current times. These competencies were organized into 7 broad fields and subdivided into 30 areas.[14] The Phase II consultation document consolidated the framework into 6 fields, which are further subdivided into 16 competencies. The National Commission for Academic Accreditation and Assessment (NCAAA),[15] in order to achieve accreditation and quality assurance, requires these to be further classified into 5 domains: knowledge, cognitive skills, interpersonal skills, communication skills, and psychomotor skills, which are known collectively as the National Qualification Framework.[15]

Although traditional tools of learning and assessment can account for most of these domains and competencies, the current trend in Saudi medical colleges to teach subjects such as medical ethics and professionalism primarily through didactic lectures does not provide an effective means of modifying students' behavior in ways that promote patient care and professionalism.[16] Promoting such change requires thoughtful reflection on clinical and other encounters during students' hospital learning experience, with supervised discourse involving peers and effective feedback from faculty. Portfolios, in this scenario, can be an effective tool in tracking, demonstrating, and assessing reflective learning experiences. The portfolio process, moreover, can provide opportunities for students to collect evidence of their leadership roles and their involvement in patient and peer education, as well as to improve their writing skills, all of which are fields that have been emphasized by the Saudi-Meds and by The National Commission for Academic Accreditation

and Assessment (NCAAA), but that are nevertheless largely overlooked in the course of traditional methods of teaching and assessment.

Guidelines for implementing portfolio-based learning and assessment in medical colleges in Saudi Arabia. The Association of Medical Education in Europe (AMEE) has published explicit guidelines for implementing portfolios in learning and in assessment for medical students.[1] The following guidelines were developed in accordance with the 6-point schema (**Figure 1**), which represents a modification of the Association of Medical Education in Europe (AMEE) guidelines, which is designed to fit with current Saudi educational needs and practices.

Develop a general consensus. Portfolios and reflective learning may be completely novel concepts for most stakeholders in Saudi medical education; therefore, before implementing these practices, it is necessary to develop a consensus among administrators and faculty regarding the need to include them along with tools currently in use. Doing so may require presentations, workshops, and the piloting of portfolio use on an experimental basis. At King Abdulaziz University (KAU), Jeddah, Saudi Arabia, a planned awareness was created among faculty members by portfolio working group, which discussed their experiences with implementation of portfolios formatively within their modules, in different faculty meetings and seminars.

Select an appropriate place in the curriculum. In order to gain the maximum benefit from portfolios, the competencies, and learning objectives to be achieved through this method must be selected with care. Decisions will therefore need to be made regarding the placement of portfolio in the curriculum map. Introduction of portfolios in early years of medical school can prepare the students' for later years when they have more clinical experience to reflect upon, and maximize their learning through reflection and feedback. Another consideration to be kept in mind is that Saudi students may initially have difficulty in writing their thoughts due to limitations of writing skills in English language. Therefore, students at KAU were initially given the option to write in their native (Arabic) language, if they had difficulty in explaining themselves in English. Students' writing skills and language improved with time and so did their reflections.

Select an appropriate support group. Motivated faculty members, who are willing to put in the time and effort needed to develop students' learning competencies in ways that will ultimately help them to become better professionals, will be indispensable in the process of implementing portfolio-based learning and assessment.
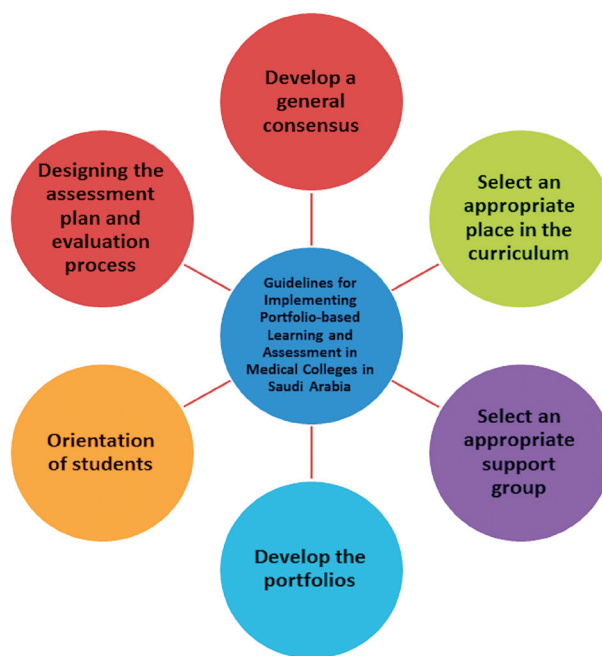
Figure 1 - Guidelines for implementing portfolio-based learning and assessment in medical colleges in Saudi Arabia.

Faculty enthusiasm can be enhanced by rewarding innovative and progressive activities. In our experience, selecting the initial group to initiate the process is most difficult; however, once the "ball starts to roll" many faculty members get motivated to join the group.

Develop the portfolio. Once the appropriate competencies and other objectives are set, the team can determine the material that can be used to gather proper evidence of student learning. There is almost no limit on creativity while choosing the modalities that can be used in a portfolio. From feedback, reports, reflective write ups on incidents to pictures and video recordings, all can be a part of the portfolio. The availability of resources and feasibility of their use will guide the faculty in deciding on the right directions in which to develop portfolio as an effective tool for promoting positive behavior change in Saudi medical students. A plan for how the collected material will be used for students' assessment should also be developed at this point. In our opinion, limitations of time, and human resource required for assessment process often become a factor in limiting the collectables in portfolios.

Orientation of students. Students must be informed, from the outset, regarding the methods to be used in portfolio-based learning and assessment. They should also receive written guidelines that explain the learning methods, content, assessment process, marking system, and benefits that pertain to the use of portfolio. If they

are well informed on what to expect, students are less likely to feel anxious or threatened; thereby, increasing the likelihood of a successful and enjoyable learning experience.

Designing the assessment plan and evaluation process. This process must encompass decisions regarding the nature of assessment (formative or summative) for students at various levels as well as regarding marking criteria for the content of portfolios, training for examiners, and the time, place and methods to be used for assessment. The process of evaluation for improvement and quality assurance in place at the start of implementation not only secures a smooth-running process, it also instills stakeholders, and observers with confidence.

Limitations of portfolios. A number of limitations with the use of portfolios have been reported including students and faculty finding it time-consuming, less important or distractive from other forms of learning, and, at times, inability of students to understand the purpose of the whole exercise.[12] These limitations can be tackled with a thoughtfully prepared plan for development and implementation of the process.

The authors acknowledge that there still are unanswered questions regarding the use of portfolios in Saudi Arabian culture of medical education, implementation process details, assessment criteria, and standard setting. We are hopeful that these issues will be better understood once we have the results of local implementation of the portfolios, the KAU portfolio project.

In conclusion, we believe implementation of portfolios as a method for learning and assessment requires careful consideration and understanding of the tool, careful selection of the topics and competencies that can maximally benefit from this relatively complex modality, and buy-in of the involved stakeholders for the painstaking process of change. We recommend that portfolios, at least in the initial phase of implementation, should only be used to achieve selected competencies, particularly those that are not typically achievable through other, less multi-faceted, and more easily implemented means of education.

References

1. Van Tartwijk J, Driessen EW. Portfolios for assessment and learning: AMEE Guide no. 45. *Med Teach* 2009; 31: 790-801.
2. Ellaway R, Masters K. AMEE Guide 32: e-Learning in medical education Part 1: Learning, teaching and assessment. *Med Teach* 2008; 30: 455-473.
3. Driessen E, van Tartwijk J, van der Vleuten C, Wass V. Portfolios in medical education: Why do they meet with mixed success? A systematic review. *Med Educ* 2007; 41: 1224-1233.
4. Knowles M, Holton EI, Swanson R. The adult learner: the definitive classic in adult education and human resource development. Burlington (MA): Elsevier; 2005.
5. Dennick RG. Theories of learning: Constructive experience. In: Matheson D, editor. An introduction to the study of education (David Fulton Books). 3rd ed. London (UK): Routledge; 2008.
6. Vance G, Williamson A, Frearson R, O'Connor N, Davison J, Steele C, et al. Evaluation of an established learning portfolio. *Clin Teach* 2013; 10: 21-26.
7. Driessen E, van der Vleuten C, Schuwirth L, van Tartwijk J, Vermunt J. The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Med Educ* 2005; 39: 214-220.
8. Sandars J. The use of reflection in medical education: AMEE Guide No. 44. *Med Teach* 2009; 31: 685-695.
9. Mann K, Gordon J, MacLeod A. Reflection and reflective practice in health professions education: a systematic review. *Adv Health Sci Educ Theory Pract* 2009; 14: 595-621.
10. Buckley S, Coleman J, Davison I, Khan KS, Zamora J, Malick S, et al. The educational effects of portfolios on undergraduate student learning: a Best Evidence Medical Education (BEME) systematic review. BEME Guide No. 11. *Med Teach* 2009; 31: 282-298.
11. Norcini J, Anderson B, Bollela V, Burch V, Costa MJ, Duvivier R, et al. Criteria for good assessment: consensus statement and recommendations from the Ottawa 2010 Conference. *Med Teach* 2011; 33: 206-214.
12. Haldane T. "Portfolios" as a method of assessment in medical education. *Gastroenterol Hepatol Bed Bench* 2014; 7: 89-93.
13. Davis MH, Ponnamperuma GG, Ker JS. Student perceptions of a portfolio assessment process. *Med Educ* 2009; 43: 89-98.
14. Zaini RG, Bin Abdulrahman KA, Al-Khotani AA, Al-Hayani AM, Al-Alwan IA, Jastaniah SD. Saudi Meds: a competence specification for Saudi medical graduates. *Med Teach* 2011; 33: 582-584.
15. National Commission for Academic Accreditation and Assessment. Learning outcomes for bachelor degree programs in medicine: Consultation document. Tabuk (KSA): Ministry of Higher Education; 2010. p. 1-17.
16. Alkabba AF, Hussein GM, Kasule OH, Jarallah J, Alrukban M, Alrashid A. Teaching and evaluation methods of medical ethics in the Saudi public medical colleges: cross-sectional questionnaire study. *BMC Med Educ* 2013; 13: 122.