

# Portfolios in Medical Education: A Tool for Learning and Assessment of Medical Students

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## Abstract

The period of medical training is a long one and it is quite crucial for a medical student to document their learning, substantiate the same with evidence, and record personal reflections to make it a long-term learning. Portfolios have been identified as a tool for learning as it envisages the value of student-centered learning, gives importance to what a learner can accomplish, and can be used as a tool for both learning and assessment. As the primary objective of the portfolio is a reflection on learning, it plays a significant role to ensure professional growth and development. In conclusion, advocating the use of a portfolio among medical students is the foundation stone for lifelong learning and ensures continuous professional development. It is the need of the hour that all the medical colleges should implement the maintenance of the portfolio within their settings based on a framework that clearly defines the purpose for the same and its periodical assessment.

**Keywords:** Assessment, medical students, portfolio

## INTRODUCTION

The period of medical training is a long one and it is quite crucial for a medical student to document their learning, substantiate the same with evidence, and record personal reflections to make it a long-term learning. In the field of medical education, the portfolio of a medical student refers to the collection of evidence and reflections on their learning to prove that learning has taken place.<sup>[1]</sup> The student can accumulate a wide range of evidence (namely photographs, certificates of participation in academic events, appreciation letter, attendance certificates from peripheral postings, assessment reports, audio or video recordings of the presentation in a conference or surgery performed, etc.), and in the real sense sky is the limit.<sup>[1]</sup>

## PORTFOLIO-TOOL FOR LEARNING

Portfolios have been identified as a tool for learning as it envisages the value of student-centered learning, gives importance to what a learner can accomplish, and can be used as a tool for both learning and assessment.<sup>[2]</sup> As the primary objective of the portfolio is a reflection on learning, it plays a significant role to ensure professional growth and development

and also tends to establish the connection between theory and practice.<sup>[1,2]</sup> The portfolio suits students with different learning styles as it has a provision to use evidence from different settings. Owing to the collection of evidence for a relatively long period of time, the tutor gets an impression about the overall competence of the student, either through a quantitative or qualitative approach.<sup>[1,2]</sup>

## PAPER VERSUS E-PORTFOLIO

The portfolios can be maintained either in paper-based format or in the electronic form as e-portfolio by the medical students.<sup>[3]</sup> E-portfolios have been preferred by most of the

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medical institutions, as it gives a provision of hyperlinking that establishes linkages between overview, supporting evidence, and the reflection of students. Moreover, e-portfolios are user-friendly both for the student (namely easy to update, not bulky, allows the accumulation of a wide range of evidence, easy to share with the teacher, long-term storage, etc.) and teacher (as it facilitates the quick review, assessment, and giving feedback).<sup>[2,3]</sup>

## PORTFOLIO IN UNDERGRADUATE COURSES

Since the adoption of competency-based medical education for undergraduate courses, specific emphasis has been given toward the maintenance of logbook (and portfolio-optional) for the documentation of learning by the medical students.<sup>[2]</sup> The incorporation of portfolios, which can act as a tool for both learning and assessment, will significantly aid in the process of acquisition of desired competencies by the medical undergraduate students. However, for better results, it will be really nice, if each of the medical undergraduate students can be linked with one of the faculty members, who keeps guiding the student about the do's and don'ts and how to keep moving forward.<sup>[2-4]</sup>

## PORTFOLIO IN POSTGRADUATE COURSES

For all practical reasons and for the sake of feasibility owing to the less numbers in contrast to the undergraduate students, the use of portfolios in postgraduate courses has been strongly advocated.<sup>[5]</sup> The portfolios of postgraduate students can be categorized under different subheadings, such as seminars, daily log, patient care, performed procedures, journal club, teaching assignments, dissertation, research, attended conferences, outreach activities, extracurricular activities, recognitions and awards, and other notable activities. In fact, the portfolios can be effectively used for the efficient implementation of competency-based medical education through monitoring the progress of the entrustable professional activities for the individual specialty. The faculty members can be instructed to give feedback about the things maintained by postgraduate students and the aim should be to encourage students to reflect on their learning. This will eventually aid both teachers and postgraduate students to formulate shared action plan to bridge the prevailing lacunae and gradually move forward in the Dreyfus model of skill acquisition toward mastery.<sup>[4,5]</sup>

## ASSESSMENT OF PORTFOLIOS

In fact, portfolios have been considered as a part of both formative and summative assessment, wherein the development of competencies can be monitored by the teacher.<sup>[1,3]</sup> The assessment of the portfolio can be carried out in a transparent fashion based on the predetermined criteria and the intended learning objectives.<sup>[1,3]</sup> In the under graduation period, the portfolio can be used to assess the reflective ability and communication skills of the students, while it has more

scope for postgraduates, wherein workplace-based assessments are being employed.<sup>[5]</sup> The assessment can be done either with the objective of selection (ascertaining suitability of a candidate for a new job), or diagnosis (for monitoring the learning progression), or certification (to justify whether the student has attained the competencies required for certification). The assessment of the portfolio can be done either by the mentor or department faculty members or by a panel appointed by the institution periodically.<sup>[2-4]</sup>

Acknowledging the importance of the portfolio, different regulatory bodies after the adoption of competency-based education has recommended for the maintenance of portfolio for medical students. At Sri Balaji Vidyapeeth Deemed to be University, Puducherry, e-portfolios have been introduced since 2016 for all the postgraduate students in its both constituent colleges – Shri Sathya Sai Medical College and Research Institute and Mahatma Gandhi Medical College and Research Institute. The postgraduate students have been encouraged and motivated to regularly update their e-portfolio accounts with their learning, document proofs and reflections. Further, a faculty member has been assigned for the students to ensure that a constructive dialogue happens between the learner and the teacher.

## POTENTIAL FACTORS FOR SUCCESSFUL IMPLEMENTATION

In order to enhance the success of the portfolio in medical education, it is a must to specify the objectives for which the portfolio has to be maintained and the same needs to be communicated to the faculty member as well.<sup>[1]</sup> It is the responsibility of the student to create, maintain, and ensure that it meets the specified objectives. However, some flexibility must be given to the student to give them an opportunity to showcase their development.<sup>[1,2]</sup> It is essential to assess the portfolio periodically, otherwise we lose the opportunity to guide and mentor the student to pace their learning.<sup>[3]</sup> Moreover, the successful implementation of e-portfolio will essentially require infrastructure support from the administration, technical assistance, and training of the teachers and medical students.<sup>[2,3,5]</sup>

## CONCLUSION

Advocating the use of a portfolio among medical students is the foundation stone for lifelong learning and ensures continuous professional development. It is the need of the hour that all the medical colleges should implement the maintenance of the portfolio within their settings based on a framework that clearly defines the purpose for the same and its periodical assessment.

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## ملخص المقال باللغة العربية

حقائب في التعليم الطبي: أداة لتعلم وتقييم طلاب الطب

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إن فترة التدريب الطبي طويلة ومن الأهمية بمكان أن يقوم طالب الطب بتوثيق تعلمه، وإثبات ذلك بالأدلة، وتسجيل الانعكاسات الشخصية لجعله تعلماً طويلاً الأمد. تم تحديد الحافظات (المستندات أو الملفات التعليمية) كأداة للتعليم لأنها تصور قيمة التعلم المتمحور حول الطالب، وتعطي أهمية لما يمكن أن يحققه المتعلم، ويمكن استخدامها كأداة لكل من التعلم والتقييم. ونظراً لأن الهدف الأساسي للمحفظة هو التفكير في التعلم، فإنها تلعب كذلك دوراً مهماً في ضمان النمو والتطوير المهني بعد التخرج. في الختام، فإن الدعوة إلى استخدام نظام المحافظ بين طلاب الطب هو حجر الأساس للتعلم مدى الحياة ويضمن التطوير المهني المستمر. إنها حاجة الساعة التي يجب على جميع كليات الطب تنفيذها وصيانتها ضمن إعداداتها بناءً على إطار يحدد بوضوح الغرض من ذلك وسبل تقييمه الدوري.

الكلمات المفتاحية: #التقييم، #طلاب الطب، #التعليم الطبي، #المحفظة.