Learning Portfolios in Graduate Medical Education

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Learning Objectives

• Describe what a learning portfolio is
• Identify some of the potential benefits and challenges of portfolio learning
• Discuss strategies for the implementation of learning portfolios in a GME program
Background

• Educational theorists, such as Donald Schon *The Reflective Practitioner*¹ challenges of technological advancements

• Requires continuous learning and adaptability

• Reflection key to self-education …self-reflection essential for portfolio learning (learning plan)

What is a Learning Portfolio?

- Collection that demonstrates evidence of learning and achievement over time
- Includes self-reflection and critical thinking
- Requires active involvement of a mentor
- Property of the learner: future use in the MOC process
What Competency is Assessed in the Learning Portfolio?

1. Medical knowledge
2. Patient care
3. Professionalism
4. Interpersonal and communication skills
5. Practice-based learning and improvement
6. Systems-based practice
The ACGME Learning Portfolio
Experience, Reflect, Learn, Assess
Developing a Learning Plan

• Self-assessment: identify something that you want to learn
• Develop specific learning objectives
• Identify resources such as textbooks, teaching files, web-based learning
• Document progress towards the learning objectives (outcomes)
Potential Benefits

• Increases recognition of accomplishments
• Encourages self-discovery and mentoring
• Promotes self-directed learning, may improve patient care
• Helps identify areas of curriculum that need improvement¹
• Documents commitment to lifelong learning in MOC process

Maintenance of Certification Documentation

- Lifelong learning and self-assessment (learning plan, CME, self-assessment modules-SAMS)
- Assessment of performance in practice and quality improvement (SBP, PBLI)
So, learning plans are the best thing ever since sliced bread...right?
Not everyone agrees…

“Now, there are definitely aspects to this portfolio that are useful, but in my view, the learning plan insults the intelligence of the residents.

To secure a radiology residency, our residents in this country need to be the best and brightest. They no longer need to be taught how to learn. They need time to learn. Of course, if there were unlimited time, there would be no issue. But, alas, there is not.”

Nazarian L. JACR 2009; Vol. 6, Issue 6, pages 393-396
You walk into the room and inform your residents that they will each be developing an individual learning portfolio… their reaction?
I can’t wait to get started!
How much time?

What is involved? Why should I do it?

Who sees, assesses it?
Potential Challenges

• Perception as “busy work”, another “form” to fill out
• Anxiety regarding the uncertainty and time commitment of an added requirement
• Self-reflection, critical incidents, identifying weaknesses: mentor can facilitate
• Portfolio assessment
Getting Started...
Establish the Ground Rules

- Who sees it?
- Who can write in it?
- Where does assessment fit in?
- What is the time commitment?
- Where will it be kept?

Orient Mentors and Residents

- Be specific about expectations
- Review sample portfolio entries such as learning plans
- Follow-up initial orientation with Q&A sessions after portfolios have been introduced
Examples of Portfolio Entries
Development of a Systems-Based Practice QA Project

01/15/08 13:54 Text

Chris Sistrom
Inadequate evidence that learning objectives were achieved
more about blah

Compliance with Institutional and Departmental Policies

Annual Objective Examinations

Training Requirements in Breast Imaging

Conferences, Courses, Meetings Attended

Training Requirements in Nuclear Medicine

Other Activity

01/15/08 13:55 Text

Quality of Dictated Reports

External Link

Scholarly Projects
Mia Student

Development of an Individualized Learning Plan [New Entry]

01/15/08 13:54 Text [View] [Append] [Archive]

z
January 15, 2008 at 2:23 PM new text to append
January 15, 2008 at 2:26 PM Resident does NOT provide evidence of self-assessment Goals are specific enough to allow clear recognition of progress or achievement Inadequate evidence of...

Richard Rathe
Resident does NOT provide evidence of self-assessment
Goals are specific enough to allow clear recognition of progress or achievement
Inadequate evidence of a plan to achieve goals
This is a comment.

Chris Sistrom
mia this is much better!

01/15/08 14:27 Text [View] [Append] [Archive]

new learning plan about neuro

Documentation of an Individualized Learning Outcomes [New Entry]

01/15/08 13:54 Text [View] [Retrieve from Archive]

Development of a Systems-Based Practice QA Project [New Entry]

01/15/08 13:54 Text [View] [Append] [Archive]
# Development of an Individualized Learning Plan

## Mia Student

Type your entry in the space provided then click submit.

<table>
<thead>
<tr>
<th>Development of an Individualized Learning Plan</th>
<th>New Entry</th>
</tr>
</thead>
<tbody>
<tr>
<td>It may be helpful to start by addressing the following:</td>
<td></td>
</tr>
<tr>
<td>1. Self-assessment resulting in the identification of a weakness or knowledge gap</td>
<td></td>
</tr>
<tr>
<td>2. Development of specific learning objectives that can be objectively assessed</td>
<td></td>
</tr>
<tr>
<td>3. Identification of resources and strategies that will be used to achieve these objectives</td>
<td></td>
</tr>
<tr>
<td>4. Development of a projected timeline</td>
<td></td>
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<tr>
<td>5. Assessment of objective measures that will provide feedback regarding progress towards the achievement of the learning objectives, such as in-service scores, increased accuracy of dictated reports, etc.</td>
<td></td>
</tr>
<tr>
<td>It is important to keep in mind that your learning objectives should be specific. The annual self-assessment should include your assessment of the progress that you have attained in achieving your objectives since the last review and an updated learning plan based on this assessment.</td>
<td></td>
</tr>
</tbody>
</table>
In this learning plan, I will focus on addressing personal weaknesses in chest imaging. Specifically, these include interstitial lung disease and acquired heart disease. I plan to accomplish this through personal study and while on upcoming chest and cardiac imaging rotations. I plan to use detailed...

**Lori Deitte**
Resident provides evidence of self-assessment
Goals are specific enough to allow clear recognition of progress or achievement
Adequate evidence of a plan to achieve goals

**Documentation of an Individualized Learning Outcomes**

05/19/09 21:43 Text [View]
I was able to achieve one of the goals in my first learning plan—I passed the physics board exam. I was able to achieve one of the goals in my second learning plan—I improved my score on the "Chest Radiology" section of the inservice exam.
In this learning plan, I will focus on addressing personal weaknesses in chest imaging. Specifically, these include interstitial lung disease and acquired heart disease. I plan to accomplish this through personal study and while on upcoming chest and cardiac imaging rotations. I plan to use detailed textbooks and online resources (including video review courses and interactive cases). I will use direct feedback from attendings and performance on future inservice exams and case courses to gauge my progress.

1. Evidence of Self-Assessment
   - Resident does NOT provide evidence of self-assessment
   - Resident provides evidence of self-assessment

2. Goals
   - Goals are NOT specific enough to allow clear recognition of progress or achievement
   - Goals are specific enough to allow clear recognition of progress or achievement

3. There is evidence of a plan to achieve goals.
   - Inadequate evidence of a plan to achieve goals
   - Adequate evidence of a plan to achieve goals

4. Please provide comments for the resident:
Second Learning Plan Entry

- Development of an Individualized Learning Plan
  04/01/08 23:00 Text [View]
  Goal: Improve understanding of physics in radiology; and specifically physics of MRI.
  Strategies: 1. Read The Essential Physics of Medical Imaging by Bushberg. 2. Read Review of Radiologic Physics by Huda. 3. Attend physics lectures. 4. Review physics notes each week. 5. Read MRI studies on Body and...

- Lori Deitte
  Nice plan - keep up the good work.
Second Learning Plan Entry

- 4/01/2008 Strategies:
  1. Read The Essential Physics of Medical Imaging by Bushberg.
  2. Read Review of Radiologic Physics by Huda.
  3. Attend physics lectures.
  4. Review physics notes each week.
  5. Read MRI studies on Body and Neuro rotations.

Assessment:
  1. Practice examinations.
  2. Attending review of MRI dictations.

- Documentation of an Individualized Learning Outcomes
  05/20/09 07:11 Text [View]
  Passed physics boards September 2008.
Development of a Systems-Based Practice QA Project

The purpose of the QA project is to document your participation in the analysis of a systems-based problem at the departmental, institutional, local or national level and address a solution. The analysis, solution and assessment of the outcome will be presented at a departmental competency/QA conference. Possible topics for the QA project include measures to improve efficiency, facilitation of interdepartmental communication, and the optimization of resource utilization [1]. Please see the following references for further clarification and examples of systems-based projects:

Systems Project Entry

• PROBLEM: The most appropriate, efficient and radiation-conscious method to evaluate suspected appendicitis in a pediatric patient may differ among the services involved in the care of children at our institution.

• ANALYSIS: Multidisciplinary conference with the division of Pediatric Surgery; department of Emergency Medicine and department of Radiology to discuss the above problem and to develop a standard protocol.
SOLUTION:
If appendicitis is the leading differential diagnosis in a pediatric patient by an ED physician; pediatric surgery should be consulted to evaluate the patient. If warranted; a CT of the pelvis with IV contrast only will be performed. No oral contrast. kVP of study will be graded based on age/body habitus. The protocol is available on the Department of Radiology website for other departments to review.

OUTCOME:
Standard protocol for the evaluation of appendicitis in a pediatric patient for our institution was developed in a multidisciplinary fashion. It was presented for discussion at a radiology departmental PBQI conference.
1. Achievement

| Inadequate evidence that learning objectives were achieved | Adequate evidence that learning objectives were achieved |

2. Please provide comments for the resident:
During their training, all residents must engage in a scholarly project under faculty supervision. This may take the form of laboratory research, clinical research, or the analysis of disease processes, imaging techniques, or practice management issues. The results of such projects will be presented and evaluated during Research Week each year.
Scholarly Activity Entry

- **01/14/08 13:20 Text** [View]
  Retrospective investigation into the temporal relationship between funduscopic findings and MR imaging findings in patients with diagnosed with cat scratch disease. Followup project to previous paper: Optic neuropathy secondary to CSD: Differentiating MR imaging characterstics from other forms of ON...

- **11/04/08 14:35 Text** [View]
  I am currently putting together a research project with Dr. Caridi; Dr. Abbitt; Dr. Morelli (GI Medicine) and Arul Selvam tentatively entitled "DETECTION AND LOCALIZATION OF ACUTE MASSIVE GASTROINTESTINAL BLEEDING USING ARTERIAL PHASE MULTI-DETECTOR ROW HELICAL COMPUTED TOMOGRAPHY IN COMPARISON WITH...

- **11/04/08 14:38 Text** [View]
  I recently had an ACR Case In Point accepted and published online regarding Galeazzi fractures and their radiographic diagnosis and features.
### 1. Scholarly Activity

- [ ] Project does NOT demonstrate scholarly activity
- [X] Project demonstrates scholarly activity

### 2. Please provide comments for the resident:

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January 15, 2008 at 1:55 PM

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Determining How the Portfolio will be Assessed

- What is the purpose of the portfolio?
- Communicate the specifics of assessment during the orientation
Assessment of Portfolios

“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”

-David Snadden and Mary Thomas
Teacher, Vol. 20, No. 3, 1998
Should Portfolios be Assessed with a Scoring System?

- Reliability between raters
- Validity
Rating Portfolios

- Two external raters trained to rate portfolio entries in a psychiatry residency program using 6-point rubrics
- Overall agreement of 75%
- Several entries had very low agreement

Rating Portfolios

“High agreement depends on clear criteria, adequate examiners’ training, communicating criteria..., and shared understanding of expected student performance and the assessment purpose”¹

¹Friedman BD et al. Med Teach 2001;23:535-51
Rating Portfolios

Our residency program has decided not to “score” portfolio entries… instead, the mentor and/or PD provides ongoing on-line written feedback. Each resident portfolio is reviewed individually with the resident at the semi-annual evaluation meeting with the PD.
In this learning plan, I will focus on addressing personal weaknesses in chest imaging. Specifically, these include interstitial lung disease and acquired heart disease. I plan to accomplish this through personal study and while on upcoming chest and cardiac imaging rotations. I plan to use detailed textbooks and online resources (including video review courses and interactive cases). I will use direct feedback from attendings and performance on future inservice exams and case courses to gauge my progress.

1. Evidence of Self-Assessment

- Resident does NOT provide evidence of self-assessment
- Resident provides evidence of self-assessment

2. Goals

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- Goals are specific enough to allow clear recognition of progress or achievement

3. There is evidence of a plan to achieve goals.

- Inadequate evidence of a plan to achieve goals
- Adequate evidence of a plan to achieve goals

4. Please provide comments for the resident:

[Blank space for comments]
Proposed Outcomes that Programs can Monitor

- Changes in medical practice or institutional guidelines as a result of SBP project
- Changes in curriculum
- Evidence of increased self-directed learning
- Improved patient care
The Future

• Medical education viewed as a continuum starting with the decision to attend medical school and ending with retirement “lifelong learning”¹

• Portfolio documentation, learning and assessment tool throughout one’s career and recertification process

¹Sachdeva AK. Arch Surg 2005;140:264-9
Harden RM. Emerg Med J 2006;23:798-802
Thank You