Advancing educators and education by defining the components and evidence associated with educational scholarship

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OBJECTIVE This study aimed to establish documentation standards for medical education activities, beyond educational research, for academic promotion consistent with principles of excellence and scholarship.

METHODS In 2006 a Consensus Conference on Educational Scholarship was convened by the Association of American Medical Colleges (AAMC) Group on Education Affairs (GEA) to outline a set of documentation standards for use by educators and academic promotion committees. Conference participants’ work was informed by more than 15 years of literature on scholarship, educator portfolios and academic promotion standards.

RESULTS The 110 conference participants, including medical school deans, academic promotion committee members, department chairs, faculty and AAMC leaders, re-affirmed the 5 education activity categories (teaching, curriculum, advising and/or mentoring, education leadership and/or administration, and learner assessment), the contents of each category, and cross-category documentation standards. Educational excellence requires documentation of the quantity and quality of education activities. Documenting a scholarly approach requires demonstrating evidence of drawing from and building on the work of others, and documenting scholarship requires contributing work through public display, peer review and dissemination; both involve engagement with the community of educators. Implementation of these standards – quantity, quality and engagement with the education community – should occur in parallel with the development of an infrastructure to support educators, including sustained faculty development for educators, access to educational resources and journals, peer review mechanisms and consultation and support specific to each activity category.

CONCLUSIONS Educators’ contributions to their institutions must be visible to be valued. The establishment of documentation standards for education activities provides the foundation for academic recognition of educators.

KEYWORDS *education, medical; teaching/*methods; curriculum; mentors; leadership; educational measurement.

INTRODUCTION

In the early 1990s, the academic medicine community rarely used the terms ‘education’, ‘teaching’, ‘scholarship’ and ‘academic promotion’ in combination. Teaching was an expected aspect of academic citizenship, a necessary but insufficient element
Overview

What is already known on this subject

Medical educators commonly use 5 education activity categories in academic promotion documents, including annotated CVs and educator portfolios.

What this study adds

This paper reaffirms the 5 education activity categories, expands the delineation of each category’s content, and provides a model for documentation ('Q²Engage') that defines the quantity, quality and evidence of engagement with the education community needed in academic promotion materials. It also recognises that the education infrastructure must evolve in parallel with each institution’s academic promotion standards.

Suggestions for further research

Future research might expand on the 4 lines of inquiry defined in this paper, including the preliminary identification of key infrastructure elements needed to support educators’ excellence and engagement with the education community.

for academic promotion. This perspective on teaching dominated academic medicine specifically and higher education generally until The Carnegie Foundation for the Advancement of Teaching published Ernest Boyer’s Scholarship Reconsidered: Priorities of the Professoriate. Boyer’s work reframed and expanded the discussion regarding roles, expectations, recognition and advancement of educators by providing a framework from which to challenge the prevailing concept that ‘everyone teaches’ with the suggestion that teaching be examined as a form of scholarly work. The discussion was enriched by the publication of Scholarship Assessed, which articulated common criteria for judging all forms of scholarship: clear goals; adequate preparation; appropriate methods; significant results; effective presentation, and reflective critique. The most recent contribution to this emerging literature is The Advancement of Learning – Building the Teaching Commons, which highlights the importance of a community of educators focusing on the scholarship of teaching and learning. In combination, this literature outlines the critical elements needed to make education-related work visible and valued. By framing a faculty member’s education-related activities using principles of scholarship, dialogues around education can be built from the shared values of faculty excellence and scholarship expected for all missions within our institutions.

Making education activities visible and valued using a common set of standards, be it for certification, academic promotion, and/or improving our educational programmes, is a global purpose shared among university-based medical educators from Australia and Israel to the United Arab Emirates and Singapore. For medical school educators in the USA, visibility and value in institutions that are increasingly dependent upon research grants and clinical revenue for operational budgets is particularly challenging. These new pressures have resulted in a crisis of mission related to medical school faculty roles and rewards. As school leaders recognise that educators must be ‘supported and rewarded, both professionally and financially’ to sustain the educational mission, recognition of education in academic advancement has begun to slowly emerge. Education as a viable faculty career track, the use of educator portfolios for academic promotion, the ongoing examination of the elements used by promotion committees, delineation by education-related professional organisations of expectations for individuals directing medical student clerkships, development of a compact between residents and their teachers, and the proliferation of education academies and societies point to the emergence of education as a visible and valued activity.

Professional societies have also played a key role by clarifying issues and potential solutions for recognising and valuing medical educators. For example, beginning in 1996, members of the Association of American Medical Colleges (AAMC) Group on Educational Affairs (GEA) began to elucidate the criteria for scholarship in medical education with a series of case studies. The group then began to define the core elements of educational scholarship and the associated resources and infrastructure needed to support educators as scholars. In 2003, GEA members documented the increased attention to educators’ academic promotion in US medical schools through the dramatic increase in the use of education portfolios – used by 5 schools in 1990 and 76 schools in 2005 – as part of the academic promotion process.
However, despite the emergence of a common set of education activities presented within educators’ portfolios (teaching, curriculum development, mentoring and/or advising, education leadership and/or administration, learner assessment), the documentation methods and evidence presented in these portfolios were highly variable. The variability in agreed-upon documentation standards for evidence was cited as limiting the degree to which the work of educators can be visible and valued. Therefore, the authors sought to elucidate a set of common documentation standards, consistent with principles of scholarship, so that educators’ contributions can be evaluated in academic promotion.

**METHODS**

A Consensus Conference on Educational Scholarship was convened by the AAMC–GEA in Charlotte, NC, USA, in 2006, to:

1. reaffirm the 5 education activity categories and further elucidate their contents;
2. describe the appropriate forms of evidence and presentation displays for each category, and
3. identify areas associated with the academic advancement of educators that required further investigation.

Prior to the conference, the 110 conference participants, including medical school deans, academic promotion committee members, department chairs, faculty and AAMC leaders, were given 3 required readings and 2 recommended readings in order to ensure a common understanding of educational scholarship.

Two plenary sessions opened the conference and set the stage for guided discussions in pre-assigned working groups. Each working group focused on 1 of 5 education activity categories: teaching; curriculum development; mentoring and/or advising; education leadership and/or administration, and learner assessment. Education research, an activity that can be conducted in any category, was not a focus for discussion, as the criteria and documentation methods are clearly established and already in use by academic promotion committees (e.g. peer-reviewed presentations, publications, grants). We charged each working group with defining and outlining the educator’s portfolio contents in its assigned activity category in such a way that would positively impact decisions about academic promotion. Each group was asked to delineate representative activities, types of evidence needed to document, and effective ways of displaying the activity category entries and associated evidence. To inform this discussion, 3 faculty portfolios highlighting various formats and criteria for each category were distributed. The working groups reported their findings to the full conference for discussion.

Following the conference, we summarised the consensus findings from each working group and circulated the findings to the group members for review and revision. These reports were then synthesised by the authors to create a single consensus documentation model. The model was presented at the 2006 AAMC Annual Conference, resulting in minor refinements.

**RESULTS**

**Educator activity categories**

The 5 education activity categories were re-affirmed as appropriate for academic promotion:

1. teaching;
2. curriculum development;
3. advising and mentoring;
4. education leadership and administration, and
5. learner assessment.

**Documenting educator’s activities: Q2Engage**

Evidence of excellence and engagement with the education community emerged as the 2 common documentation standards crossing all activity categories. Each of these common standards has 2 elements.

**Educational excellence**

Documentation of educational excellence must present evidence associated with the quantity and quality of the education activity:

- **quantity**: descriptive information regarding the types and frequencies of education activities and roles, and
- **quality**: evidence of effectiveness and excellence in the activity, using comparative measures when available.

Engagement with the education community, the second common documentation standard, is demonstrated by presenting evidence that the educator’s...
Educators become engaged with the broader community of educators by reviewing and building upon other educators’ work. A scholarly approach is demonstrated by documenting a systematic approach, informed by the literature and ‘best practices’ in the field, to the design, implementation, assessment and redesign of an education activity.

Educators engage in scholarship by contributing new, peer-reviewed resources that advance the field. Documentation of educational scholarship begins with demonstrating that a product emerging from an education activity is disseminated to the education community in a form that others can build on. The product may be disseminated at local (e.g. department, medical school, university) or at regional, national and/or international levels. Once a product is disseminated in a form that others may build on, peers can assess its value to the community by applying accepted criteria for assessing scholarship.

Educators seeking academic promotion may present evidence focused on a single education activity category (e.g. teaching) or on multiple categories (e.g. curriculum, learner assessment, leadership). Table 1 presents a brief definition of each education activity category and illustrative types of evidence to document quantity, quality and engagement with the education community. In general, activity documentation should include:

- a brief description of the activity and the educator’s role (e.g. author, preceptor, lecturer or leader);
- evidence of quantity for each activity in a narrative or tabular display that highlights answers to questions related to who (e.g. level of trainee, number of trainees), what, when, where, how often and how much time is devoted to the activity;
- evidence of quality associated with the effectiveness of the process and/or outcomes of each activity selected from an array of available datasets including norm-referenced summary data from learner or peer evaluations (e.g. teaching evaluations, end-of-course or rotation evaluations, peer reviews of lectures or curriculum, internal education committee ratings), short excerpts from narratives data (e.g. letters, accreditation reports, learner comments), enrollment or test statistics (e.g. difficulty, discrimination, reliability), invitations to teach outside one’s own department, school, college and/or institution, impact on learner performance (e.g. pre–post improvement in test scores, successes of advisee), retention of learners, sustainability of curriculum change, and
- evidence of engagement with the education community through documentation that the educator’s work is informed by what is known in the education community (e.g. existing literature, best practices, resources in the field, local, regional, national, and/or international colleagues), draws on resources from the field (e.g. foundation grants, dean’s fund for curriculum change) and/or is made visible, peer-reviewed and contributes to the work of the education community through dissemination of an educational product (e.g. course packet, instructional DVD, learner assessment instrument, paper), through established venues (e.g. local curriculum committee, invited regional presentation to other educators, peer-reviewed paper in a journal, enduring educational product in AAMC MedEdPORTAL).

These documentation standards, encapsulated as Q2Engage, apply across all education activity categories. However, the specific types and forms of evidence may vary by category. For example, evidence of quantity and quality in teaching may include teaching effectiveness ratings over multiple years and by teacher roles (e.g. lecturer, small-group facilitator, clinical attending doctor). By contrast, evidence associated with curriculum development may focus on a single activity and include evidence for the most recent offering using learner and/or peer ratings of excellence. The curriculum entry may include a notation that the curriculum was accepted for the AAMC’s peer-reviewed MedEdPORTAL or was used by another school, thereby demonstrating engagement with the community.

All documentation must be effectively and concisely presented using common terminology and displayed in an easy-to-read format, using tables, figures and/or graphs when possible. Detailed descriptions of each activity category along with illustrative examples...
demonstrating documentation of quantity, quality and engagement are available in the conference proceedings.\textsuperscript{23}

\textbf{Institution level responsibilities}

The \textsuperscript{Q2Engage} documentation model recognises the synergy and tension between institution-specific roles and expectations of faculty as educators and expectations for educators to engage with the broader community of medical educators. All working groups recognised that each academic institution must determine the relative balance between institution-specific expectations for excellence as educators (quantity and quality) and the engagement expectations for educators (scholarly approach and educational scholarship) in promotion and/or tenure decisions. These decisions should be based not only on institution-specific missions, but also on infrastructure support for education and educators.

\begin{table}[h]
\centering
\caption{Educational activity category definitions and documentation guidelines as per the \textsuperscript{Q2Engage} model}
\begin{tabular}{|c|c|c|c|c|}
\hline
\textbf{Category and definition} & \textbf{Quantity} & \textbf{Quality} & \textbf{Engagement with education community} \\
\hline
Teaching & Any activity that fosters learning, including direct teaching (e.g. lecturing, tutoring, precepting) or creation of associated instructional materials & Teaching role, How long (duration and frequency), Where (required course, venue) & Awards with criteria, Evaluation by students, peers, consultants, Evidence of learning (self-reports, performance on standardised tests) & How teaching approach is informed by the literature, Impact of colleague discussions on subsequent practice, List of interactive learning exercises accepted in peer-reviewed repository, \textsuperscript{23} \textsuperscript{21} \\
\hline
Curriculum & A longitudinal set of systematically designed, sequenced and evaluated education activities occurring at any training level, venue or in any delivery format & Role and contribution to curriculum, Description of curriculum purpose, intended audience, duration, design and evaluation & Learner reactions or ratings, Impact on learning (course examination, standardised tests, observation of learner performance), Evaluation by peers & Objectives informed by local, national or international reports or standards, References to other curriculum models, Adoption of evaluation tool used by others in the field, Report of peer review of curriculum by local and/or national experts, List of institutions adopting the curriculum, Acceptance of curriculum in peer-reviewed repository \\
\hline
Mentoring and/or advising & A developmental relationship in which educator facilitates the accomplishment of a learner’s or colleague’s goals & Description of relationship with protégé, including name, current status, purpose or goals, duration and total time invested & Effectiveness ratings, Outcomes of relationship (extent to which protégé accomplished goals, products such as presentations, publications, awards) & Professional development activities to enhance mentoring effectiveness; current practices compared with best practices, Obtain funding for mentoring programmes, List of publications, invited presentations, List of those adopting mentoring practices \\
\hline
Education leadership and administration & Leadership activities that transform educational programmes and advance the field & Project description, Rationale for change, Goal, Leadership role(s), Duration & Data demonstrating achievement of goals: Formative (faculty involvement, committee attendance) Summative (learner performance, faculty retention) 360\degree leadership evaluation ratings with peer comparisons & Evidence that change is based on literature and best practices, Comparative improvement data, Resources garnered by source (grants, internal funds allocated) and/or nationally, Report of peer review of work or project, List of invitations to present one’s work locally, nationally and internationally, List of institutions that have adopted work, List of work-related publications \\
\hline
Learner assessment & All activities associated with measuring learners’ knowledge, skills and attitudes & Role and contribution Assessment goals, Number of items, learners assessed, Frequency of use & Measures of reliability, Measures of validity appropriate to the type of assessment & Evidence that methods are based upon best practices, List of presentations about innovative testing strategy, List of publications about assessment strategy \\
\hline
\end{tabular}
\end{table}
More specifically, at the individual level, institutions need to align promotion expectations with the education activities assigned to faculty members. At an institutional level, the documentation standards for academic promotion should not exceed the education support infrastructure available within the institution and from regional, national and international organisations associated with medical education. Support infrastructure includes departmental and/or school-wide systems to collect, analyse and report course and/or teacher ratings, forums for educators to share their work and have it peer-reviewed, faculty development to enhance educator expertise and learn about new advances in the field, and access to educational journals and peer-reviewed repositories of educational materials. As the education infrastructure evolves, so too may standards of documentation, supporting educators’ inclusion of both excellence and engagement evidence.

DISCUSSION

Institutions reward what is visible and valued. Faculty members contribute to each institution’s education mission through activities in teaching, curriculum development, mentoring and/or advising, leadership, and/or learner assessment. Contributions in these activity categories must be valued in academic promotion decisions to demonstrate that each institution’s recognition and reward structures are aligned with its educational mission.

Our synthesis of the literature and the findings from the consensus conference demonstrate that educational contributions can be judged through the effective documentation and presentation of Q2Engage evidence: quantity; quality, and, when relevant, engagement with the education community. These documentation standards, although developed for academic promotion, can be applied to certification portfolios, individual development plans and/or reports describing educational programmes. Independent of their use, these standards emphasise that education activities can no longer be viewed as ‘largely private work, guided by tradition, but uninformed by shared inquiry or understanding of what works’. When aligned with the appropriate education infrastructure, a faculty member’s education activities can become public and open to peer review, paralleling the process used by our colleagues in the research community.

Drawing inferences from the infrastructure typically available to support research, we can begin to identify the key infrastructure elements needed for education (e.g. mentoring, funding, facilities and uninterrupted time to devote to scholarly activities). Literature is also beginning to emerge that is specifically associated with the components of an education infrastructure ranging from key components and roles for departments of medical education to the costs associated with studies in medical education. Throughout the consensus conference, Patricia Hutchings, drawing on her work with Mary Huber, advocated for the creation of a ‘teaching commons’. This type of infrastructure might provide a physical (or virtual) place for educators and other stakeholders to come together as a community to engage in crucial conversations, informed by the literature and guided by experience in teaching and learning.

Education infrastructure represented 1 of only 4 question clusters that emerged from the consensus conference as impacting the implementation of our documentation standards. Although answering these questions clusters may not resolve the issue of how to make our education activities visible and valued, by making each of these clusters visible, others can build and expand on the consensus findings presented in this paper to advance our field.

Infrastructure

- What are the essential institutional and/or organisational structures (e.g. learning communities, academies and societies) and infrastructure elements needed to support excellence and scholarship in education (e.g. peer observations, consultation and evaluations of teaching, psychometric analysis of learner assessment tools, faculty development)?
- How can we initiate, expand and facilitate effective dialogue among key constituencies (e.g. medical school deans, academic societies, teaching hospitals) nationally and internationally to develop an infrastructure that values educators and educational scholarship?

Breadth of engagement with the education community

- What level of engagement must a successful candidate for promotion document to demonstrate meaningful involvement in the community of educators (e.g. internal or external, local or national)?
should engagement expectations vary by faculty rank and/or available institutional resources (e.g. support for participation in national meetings)?

Category inclusions and boundaries

- How many inclusions are expected within an activity category for academic advancement?
- What level of sustained activity must an educator demonstrate to ‘count’ in academic promotion decisions?

Judging individual versus group accomplishments

- In the USA and around the world, university-based promotion committees have longstanding traditions and standards for judging individual accomplishments and there is emerging recognition of the need for rewarding collaborative initiatives.28 However, as many educators’ activities result from group effort, how should educators present and document evidence of group accomplishments?

In summary, our work has reaffirmed 5 educator activity categories to complement the already established activity of educational research. We have elucidated the documentation standards for making work in these 5 activity categories visible and public for peer review in academic promotions, teacher certification and/or programme development. Now, we must seize the opportunity to disseminate and build upon this knowledge. Using existing local, national and international forums, and, where necessary, creating new teaching commons, we must communicate what we know about documentation standards for educators seeking academic promotion and stimulate conversations and systematic inquiry to answer our current questions. If we are successful, communities of educators will emerge, populated by members whose contributions to our common educational mission – improving the health of the public through excellence in the education of doctors29 – are supported through a strong education infrastructure and valued through academic promotions and recognition as educators.

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