Residents’ Views of the Role of Classroom-Based Learning in Graduate Medical Education Through the Lens of Academic Half Days
Luke Y.C. Chen, MD, MMEd, Julie A. McDonald, EdD, Daniel D. Pratt, PhD, Katherine M. Wisener, MA, and Sandra Jarvis-Selinger, PhD

Abstract

Purpose
To examine the role of classroom-based learning in graduate medical education through the lens of academic half days (AHDs) by exploring residents’ perceptions of AHDs’ purpose and relevance and the effectiveness of teaching and learning in AHDs.

Method
The authors invited a total of 186 residents in three programs (internal medicine, orthopedic surgery, and hematology) at the University of British Columbia Faculty of Medicine to participate in semistructured focus groups from October 2010 to February 2011. Verbatim transcripts of the interviews underwent inductive analysis.

Results
Twenty-seven residents across the three programs volunteered to participate. Two major findings emerged. Purpose and relevance of AHDs: Residents believed that AHDs are primarily for knowledge acquisition and should complement clinical learning. Classroom learning facilitated consolidation of clinical experiences with expert clinical reasoning. Social aspects of AHDs were highly valued as an important secondary purpose.

Perceived effectiveness of teaching and learning: Case-based teaching engaged residents in critical thinking; active learning was valued. Knowledge retention was considered suboptimal. Perspectives on the concept of AHDs as “protected time” varied in the three programs.

Conclusions
Findings suggest that (1) engagement in classroom learning occurs through participation in clinically oriented discussions that highlight expert reasoning processes; (2) formal classroom teaching, which focuses on knowledge acquisition, can enhance informal learning occurring during clinical activity; and (3) social aspects of AHDs, including their role in creating communities of practice in residency programs and in professional identity formation, are an important, underappreciated asset for residency programs.

Graduate medical education (GME) is situated primarily in the clinical environment, or workplace, and much attention has been paid to residents’ learning in that context.1–4 Teunissen and others5–8 have conducted rigorous qualitative studies demonstrating that participation in clinical activity is the starting point and foundation of learning in residency. While these studies evoke Sfard’s metaphor of informal “learning as participation”6 during residency, formal educational activities, such as classroom-based learning, still occupy a substantial amount of time and resources in GME. This raises the question: What role does classroom-based education have in the learning experiences of residents?

To address this, we explored residents’ perspectives on classroom-based education in the form of academic half days (AHDs). AHDs are regularly scheduled educational sessions (typically three to five hours weekly), directed primarily at residents and removed from the clinical context.7 They originated over 20 years ago in family medicine residencies in the rural United States as a replacement for numerous one-hour lectures, and were intended to improve attendance and facilitate innovative teaching strategies.8,9 AHDs were well received and subsequently taken up by many GME programs, particularly in Canada. For example, the 2006 version of the general standards for accreditation established by the Royal College of Physicians and Surgeons of Canada promoted the use of an AHD for teaching the CanMEDS10 “Medical Expert” role (italics ours in the quote11 below):

There must be an organized curriculum which assures that all major topics of the specialty or subspecialty are covered over the course of each resident’s time in the program. This should include teaching with a patient-centred focus and may include journal clubs, research conferences and seminars. The use of an academic half-day or equivalent is encouraged.

Despite their popularity, the role of AHDs in residents’ training, particularly in relation to learning from clinical activity, has never been clearly defined. That the “organized curriculum” in the above statement consists only of classroom-based activities subtly perpetuates the historical tension between service (i.e., clinical activities) and education (i.e., classroom-based activities). A more modern view of GME conceptualizes service and education as complementary aspects of a holistic residency curriculum.12 Such a model is consistent with Teunissen and colleagues’13 framework and evokes Eraut’s13 description of informal and formal learning as ends of a continuum rather than dichotomous opposites.

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Correspondence should be addressed to Dr. Chen, 2775 Laurel St., 10th Floor, Vancouver, BC, V5Z 1M9; telephone: (604) 875-5270; fax: (604) 875-4763; e-mail: lchen2@bccancer.bc.ca.
Previous studies on classroom learning in residency, and specifically AHDs, tended to focus on how to incorporate competency frameworks or specific approaches to teaching and learning. Although valuable on a practical level, they did not adequately address the larger question of what role AHDs play in residents’ education, and what function they potentially could fulfill in a modern curriculum. One unpublished study found that the social aspect of AHDs and their implicit message about the value of teaching are important to residents, and these findings deserve further exploration. We therefore conducted a qualitative study to explore two fundamental questions related to AHDs:

1. What do residents perceive to be the purpose and relevance of AHDs?
2. How do residents describe the effectiveness of teaching and learning in AHDs?

These questions were chosen to examine the role of classroom-based learning in GME and compare it with what is already known about learning in the clinical environment.

Method

Context and study sample

We conducted this study in Vancouver, Canada, at the University of British Columbia Faculty of Medicine. Information about residents’ experiences with their AHDs was collected by conducting focus group interviews. Participants in the focus groups were volunteer residents from three residency programs, mentioned below. All 186 residents in the three programs were invited to participate by e-mail one week prior to their designated focus group, and the volunteers received a $20 coffee gift certificate as a token of appreciation.

Because of the exploratory nature of the study, we decided on focus groups to obtain in-depth, first-hand data. Also, we chose focus groups over individual interviews because we wished to encourage dynamic interactions and discussions among the participating residents. A total of four 1.5-hour focus group interviews were conducted with residents from three training programs: internal medicine (two focus groups), hematology (one focus group), and orthopedic surgery (one focus group). These programs were chosen to represent possible variations of what an AHD may mean within different specialties.

Internal medicine is a large program, with 151 residents at the time of this study; residents in this program are in their first, second, and third years of study and will all go on to further training in subspecialty programs. Hematology is one such subspecialty and is a smaller program, with 7 residents at the time of this study; these residents are more advanced (in their fourth and fifth years) and also more differentiated. Orthopedic surgery is a moderate-sized program, with 28 residents at the time of this study; these residents are in their first through fifth years. Each residency program represented a specific “community of practice” with potentially different orientations to teaching and learning.

Focus groups

One of us (K.W.) was unknown to the residents and facilitated the focus groups using a semistructured protocol; another one of us (L.C.), a clinical faculty member, audio-recorded the interviews and served as an additional facilitator. Open-ended questions were designed, with the results of previous work in mind, to explore the two research questions stated earlier.

Facilitators asked questions about the purpose of AHDs; the structure, format, and types of learning activities in AHDs; the perceived impact of AHDs on the participants’ educations; their sense of obligation to participate; and the social aspects of AHDs. They also asked participants to estimate in writing the “actual” and “ideal” amounts of time spent in various AHD activities such as lectures, simulation, and journal club.

Examples of questions include the following:

- What do you hope to get out of your AHDs?
- What activities does your AHD currently consist of?
- What is the relationship between learning in AHD and learning in a clinical setting?
- Do you believe your AHD is effective?
- What advice would you give to someone planning AHDs?

Focus groups were audio-recorded and transcribed verbatim; data were deidentified so that all participants would remain anonymous. This study was approved by the University of British Columbia behavioral research ethics board.

Results

Participants

A total of 27 residents volunteered to participate in the focus groups: 6 in one of the internal medicine focus groups, 5 in the other internal medicine group, 11 in the orthopedic surgery group, and 5 in the hematology group. For more information on the participants, see Table 1.

Analysis

Following Patton’s direction and terminology, we analyzed the focus group transcripts using a modified analytic inductive approach, with the assistance of HyperResearch software (HyperResearch 3.0, Randolph, Massachusetts). According to Patton, this is an approach that takes a volume of qualitative material and attempts to identify core consistencies and meanings (themes). The modified analytic inductive approach allowed us to analyze the data sensitized to existing concepts (i.e., without the pretense of the mental “blank slate” prescribed by grounded theory) while still allowing an iterative approach to permit the emergence of new themes and ideas from the data. Three of us (L.C., K.W., S.J.S.) conducted a preliminary analysis of the interview transcripts to generate a codebook. One of us (L.C.) completed analysis of the entire dataset, assigning unique codes to each remark in light of the research questions and adding new codes as needed until no new codes emerged. As the number of codes grew, they were renamed and regrouped into themes by the three of us who had conducted the preliminary analysis. Our entire group then discussed and agreed on the emergent themes and their relevance to the research questions.

Themes

Eight themes emerged:

- Knowledge overview and organization
- Relevance of content and emphasis on clinical reasoning
- \* The orthopedic surgery program had a small number of residents—28—but, even so, had the largest focus group. That was because a relatively large number of residents from that program volunteered, and we did not feel it was appropriate to turn some away to limit the size of the group.
A total of 27 residents in the three programs noted in the table volunteered to be in a 1.5-hour focus group; two focus groups were needed for the internal medicine participants because that program had such a large number of residents. The investigators did not wish to turn some away to limit the size of the group. Below, we have presented the two sections that consolidate their clinical activity. This classroom learning provided a context for their experiences and helped consolidate it with formal or codified knowledge:

Relevance of content and emphasis on clinical reasoning. Knowledge relevant to certification examinations and routine clinical care was seen as particularly important:

<table>
<thead>
<tr>
<th>Focus group</th>
<th>No. of participating residents (men:women)</th>
<th>Residency year (no. of residents)</th>
<th>Weekly AHD time</th>
<th>Total no. of residents in program</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Internal medicine</strong>&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td>6 (3:3)</td>
<td>First (2); second (2); third (2)</td>
<td>1:00–4:00 PM</td>
<td>151</td>
</tr>
<tr>
<td>Group 2</td>
<td>5 (1:4)</td>
<td>First (2); second (2); third (1)</td>
<td>1:00–4:00 PM</td>
<td>—</td>
</tr>
<tr>
<td><strong>Orthopedic surgery</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11 (4:7)</td>
<td>First (3); second (2); third (2); fourth (2); fifth (2)</td>
<td>1:00–5:30 PM</td>
<td>28</td>
</tr>
<tr>
<td><strong>Hematology</strong></td>
<td>5 (1:4)</td>
<td>Fourth (2); fifth (3)</td>
<td>4:00–6:00 PM</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>27 (9:18)</td>
<td>First (7); second (6); third (5); fourth (4); fifth (5)</td>
<td>—</td>
<td>186</td>
</tr>
</tbody>
</table>

Abbreviation: AHD indicates academic half day.

<sup>a</sup>A total of 27 residents in the three programs noted in the table volunteered to be in a 1.5-hour focus group; four focus groups were held. The study examined the role of classroom-based learning in graduate medical education through the lens of AHDs by exploring residents’ perceptions of AHDs’ purpose and relevance and the effectiveness of teaching and learning in AHDs.

<sup>b</sup>Two focus groups were needed for the internal medicine participants because that program had such a large number of residents.

<sup>c</sup>A relatively large number of residents from this small program volunteered, and the investigators did not wish to incorporate many activities, such as simulation and assessment, the majority of AHD time in the three programs studied was spent in lectures or small-group tutorials. Residents’ estimates of “actual” time spent was comparable to the AHD schedules provided by the programs.

Themes linked to research question 1: What do residents perceive to be the purpose and relevance of AHDs?

Summary. Residents in all three programs identified knowledge acquisition as the primary purpose of AHDs. They particularly valued sessions that consolidated their clinical experiences with theoretical knowledge or that provided access to expert clinical reasoning. Social aspects of AHDs were an important secondary purpose, which contributed to professional development and identity formation.

Knowledge overview and organization. AHDs provided structure and organization, in contrast to the opportunistic nature of clinical work:

### Social aspects

- Knowledge acquisition related to CanMEDS
- Passive versus active participation
- Retention and recall
- Case-based sessions foster engagement
- Protected time and obligation

These themes emerged from all three specialties, suggesting more commonality than variability across these programs.

Below, we have presented the two research questions and the themes that are related to them. The themes are accompanied by illustrative quotes by participants from the focus groups.

### AHD format and activities

Residents were asked to estimate the actual versus ideal time allotted to various activities in their AHDs (see Table 2). Although AHDs may incorporate many activities, such as

Beyond providing “broad overviews,” AHDs had an important role in the organization and scaffolding of knowledge, and helped residents manage the enormous amount of information they were exposed to:

The breadth of orthopedics is vast... [the AHD] gives me a focus... I’m getting direction about where I should focus in terms of my approach to mastering this body of knowledge. [Orthopedic surgery focus group]

In the quote above, the hyperbole of “20,000 patients” is telling. Although residents were “protected” from clinical duty during AHDs, patient care was never far from their minds. Therefore, residents valued classroom learning that complemented their learning gained from clinical activity. This classroom learning provided a context for their experiences and helped consolidate it with formal or codified knowledge:

Often you’ll only get to see one snapshot of a disease or of a patient in time, and academic half day can help you see the bigger longer-term picture of things. [Hematology focus group]

As such, teaching from faculty members that provided insight into expert clinical reasoning was highly valued (italics added below):

<table>
<thead>
<tr>
<th>Internal medicine focus group 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>I need to learn How to think like them is what consultant? Because that’s really what they thought process? Are you thinking like a doctor?</td>
</tr>
<tr>
<td>Common to medical training was the need to learn how to think like your consultant.</td>
</tr>
<tr>
<td>[Internal medicine focus group 2]</td>
</tr>
<tr>
<td>I’m hoping to cover all the information I need to get through my Royal College exams in the next three years. But there’s also stuff that I need, to survive on the wards, that I may not always have time to check in the middle of the night or while I’m busy rounding on 20,000 patients.</td>
</tr>
<tr>
<td>[Internal medicine focus group 1]</td>
</tr>
</tbody>
</table>

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As such, teaching from faculty members that provided insight into expert clinical reasoning was highly valued (italics added below):

What I find [high yield] is when they give you clinical pearls or they walk you through questions like, How was your thought process? Are you thinking like a consultant? Because that’s really what they can offer… How to think like them is what I need to learn. [Internal medicine focus group 2]
A total of 27 residents in the three programs noted in the table volunteered to be in a 1.5-hour focus group; four focus groups were held. The study examined the role of classroom-based learning in graduate medical education through the lens of AHDs by exploring residents’ perceptions of AHDs’ purpose and relevance and the effectiveness of teaching and learning in AHDs. Not all residents gave estimates of actual versus ideal time allotted to different activities in their AHDs; the table column headings state the number of study participants from each specialty who did give estimates.

Table 2
Residents’ Estimates, Given During Focus Groups, of the Actual Versus Ideal Amounts of Time Allotted to Different Activities in AHDs, University of British Columbia Faculty of Medicine, October 2010–February 2011

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mean % of estimated time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Internal medicine (n = 9)</td>
</tr>
<tr>
<td></td>
<td>Actual</td>
</tr>
<tr>
<td>Lectures</td>
<td>91</td>
</tr>
<tr>
<td>Small-group tutorials</td>
<td>2</td>
</tr>
<tr>
<td>Simulation</td>
<td>1</td>
</tr>
<tr>
<td>Self-directed learning</td>
<td>1</td>
</tr>
<tr>
<td>Journal club</td>
<td>0</td>
</tr>
<tr>
<td>Assessment*</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
</tr>
</tbody>
</table>

Abbreviation: AHD indicates academic half day.

* A total of 27 residents in the three programs noted in the table volunteered to be in a 1.5-hour focus group; four focus groups were held. The study examined the role of classroom-based learning in graduate medical education through the lens of AHDs by exploring residents’ perceptions of AHDs’ purpose and relevance and the effectiveness of teaching and learning in AHDs. Not all residents gave estimates of actual versus ideal time allotted to different activities in their AHDs; the table column headings state the number of study participants from each specialty who did give estimates.

**For example, objective structured clinical examinations; examination questions.

*The totals of some columns’ percentages are not exactly 100 because of rounding.

Social aspects. Residents in all three programs revealed that the secondary purpose of AHDs is to provide peer support. AHDs provided a unique and vital opportunity for residents to gather together from the different and dispersed hospitals and services. This meeting place allowed residents to familiarize themselves with each other and provide mutual support:

It can be a bit isolating to be a resident, especially when you first start out and you don’t really know anybody … and so having the half day to actually get to know your colleagues is not necessarily the stated purpose for the half day, but I think it’s an important outcome. [Internal medicine focus group 1]

Beyond emotional support, gathering together and sharing their experiences allowed meaningful self-assessment through peer comparisons:

It gives us a nice baseline to just find out that those people are going through the same experiences as you. It gives you a nice sort of feedback, telling you that, hey, even though you’ve had a really bad week or a really bad month, it’s okay ’cause you’re not that far behind. [Orthopedic surgery focus group]

Being able to gauge their progress by comparing stories was important for professional identity formation. AHDs provided a vital forum for learning how to participate in the complex and hierarchical medical profession:

… through those conversations of learning how you’re supposed to fit into the structure, especially the sort of, you know, bizarre hierarchical structure that is medicine. [Internal medicine focus group 2]

Knowledge acquisition related to CanMEDS. Canadian residency programs must demonstrate explicit teaching and assessment of all seven CanMEDS roles in order to be accredited. Traditionally, programs have little difficulty demonstrating teaching around the Medical Expert role, but they may find teaching of other roles more challenging to document. Thus, AHDs are often used as a default vehicle for providing teaching dedicated to these generic competencies—for instance, by providing an AHD workshop on communication skills. However, in this study, residents felt that their protected classroom time in AHDs was better suited to learning about the Medical Expert role only:

I don’t think that’s the purpose of half days, so I don’t think it’s necessary that someone try to fit their lectures into all these [CanMEDS] categories. I think that afternoon is to develop your Medical Expert side and then the other 90% of the time when you’re on the ward is your time to develop the other stuff. [Internal medicine focus group 2]

Instead of providing AHDs dedicated to a generic competency, elaborating on how these generic competencies play a role in specific clinical activities seemed more fruitful to residents:

We’re discussing it in the cases … we involve the cost in that, and we talk about nonoperative managements, and we involve the other people, you know, the team and the physiotherapists and how you would talk to your patient to explain the surgery and how you would explain the complications. [Orthopedic surgery focus group]

Themes linked to research question 2: How do residents describe the effectiveness of teaching and learning in AHD?

Summary. Residents had a number of opinions about the effectiveness of teaching and learning in AHDs. They valued active learning, but found this to be difficult when they were positioned as passive recipients of information. Passivity and volume of material delivered needed to be balanced against residents’ fatigue. Retention of knowledge from AHDs was considered suboptimal unless delivered through case-based sessions that allowed residents more active engagement with the material. The concept of AHDs as protected time varied in the three programs studied.

Passive versus active participation. The internal medicine program was committed to providing the same AHDs to all residents whether they were in remote distributed locations or at one of the central teaching hospitals. Therefore, most of the AHDs were videoconferenced lectures, which were felt to limit participation and active learning:

It’s really hard to involve distributed sites. It’s almost painful to ask a question, you wait for a period of time for an answer and then someone eventually comes forth. I guess that probably one of the failures is that distributed sites make it very difficult to do interactive sessions. [Internal medicine focus group 2]

The internal medicine residents indicated that an increased amount of time in small-group tutorials, simulation, and journal club, in lieu of lectures, was desirable (see Table 2). In contrast, the hematology and orthopedic surgery programs were unencumbered by videoconferencing and incorporated active, small-group, face-to-face sessions.
This promoted more active participation and responsibility:

Everybody has a role, you have certain objectives to learn, and if you don't learn them and teach them to your group, then you're letting your group down, so there is kind of a responsibility aspect to it. [Orthopedic surgery focus group]

However, residents' involvement with and ownership of AHDs also came with a cost. Residents in orthopedic surgery and hematology noted that preparation time for AHDs was considerable and could easily lead to presentation fatigue:

We're already so busy and now we pretty much have to prepare for every half day and sometimes, at least for me, it takes several hours to prepare and so that's one disadvantage. [Orthopedic surgery focus group]

Retention and recall. Unfortunately, residents believed that knowledge retention from AHDs was suboptimal. Reinforcement of formal knowledge from AHDs with practical experience was considered critical, and yet the opportunistic nature of clinical activity posed a challenge for residents:

It depends how quickly you see it. I mean, if I go to academic half day and then two days later I see that exact thing, then that's the best learning tool ever to reinforce that. But if you see something six months down the line…. [Internal medicine focus group]

Case-based sessions foster engagement. Whether in lectures or small groups, case-based sessions were more likely to be seen as engaging residents in critical thinking and active learning:

It simulates more of the day-to-day that you do with the patient, like learning from a real patient, and then I kind of get hooked when it's storytelling rather than just facts. [Hematology focus group]

Protected time and obligation. The concept of AHDs as "protected time" had a different meaning to residents in the three programs. For internal medicine residents, protected time meant freedom from clinical duty. This freedom allowed residents time to attend an AHD, pursue self-study, rest, or run errands outside of work:

I think people really value that protected time, whether they value it as protected time for learning or protected time to go to the dentist. [Internal medicine focus group]

In contrast, orthopedic surgery residents viewed protected time as freedom to learn. These residents had control over and responsibility for the design and implementation of their AHDs. Although absenteeism remained an issue, residents perceived this as less prevalent and less important:

Well, they are valuable learning experiences, so at the end of the day that's my motivation. It wouldn't really matter if nobody else came; I would still come. [Orthopedic surgery focus group]

For the hematology residents, who were all in their fourth and fifth years, the idea of "protected time" was almost obsolete. These senior residents spent less time in the hospital than they had done as internal medicine residents, and their "half day" was a two-hour period at the end of the work day.

Discussion

Our study findings reinforce and expand on Teunissen and colleagues' two-dimensional framework of resident learning by illustrating the complementary nature of classroom learning and learning from clinical activity. Residents' responses in our study affirm that learning starts with participation in patient care and, furthermore, that classroom learning can be crucial to the organization of a large amount of information and the interpretation and construction of knowledge that is critical to high-stakes tests and to patient care. Traditionally, classroom learning and clinical activity have been perceived as separate and distinct venues for resident learning. This study demonstrates that, rather than two solitudes, clinic and classroom should be seen as complementary aspects of a holistic residency curriculum.

Integrating these two aspects of residency education requires a reconciliation of the difference between formal and informal learning. According to Erat, informal learning is not the converse of formal learning, but, rather, these two forms of learning are the end points of a continuum ranging from implicit learning (characterized by implicit linkage of past memories with current experience and unconscious expectations of future behavior) to deliberate learning (characterized by discussion and review of past actions/events, engagement in problem solving, and planning for future learning opportunities and events). AHDs provide an opportunity to move the informal learning of clinical activity from the implicit to the deliberative end of this continuum.

In the classroom, residents concentrate on acquiring knowledge they feel is relevant to their daily clinical activities. When considering the CanMEDS roles, residents in our study felt that their AHDs are best spent focusing on the Medical Expert role. However, residency programs, which must demonstrate formal, explicit teaching on other CanMEDS roles, may be enticed to provide specific AHD sessions focusing on these other roles—for example, a workshop on "Professionalism."

A potential solution to this tension is to invoke ten Cate and Scheele's two-dimensional matrix of entrustable professional activities and general competencies. This matrix endorses that teaching and assessment of general competencies should be embedded in specific activities relevant to the practice of medicine. Residents can learn many competencies from a single activity, and which competency is developed most by the activity requires steering the interpretation and construction of meaning. For example, Medical Expert may be the competency most relevant to a case-based discussion on management of lymphoma, but such a discussion could also elaborate on other competencies, such as Health Advocate and Communicator. Optimizing classroom learning requires recognition that learning general competencies is not in competition with daily clinical activities but, rather, is a separate dimension of the professional development taking place in both the classroom and the clinic.

Residents in all three programs emphasized the importance and value of exposure to expert clinical reasoning processes in the classroom setting. Faculty should be aware of the premium that residents place on clinical reasoning rather than on simple transmission of information. Yet although some clinical problems may be quite amenable to explicit, analytical reasoning processes, others may require more tacit knowledge and nonanalytical processes. Faculty need not feel compelled to make these nonanalytic processes explicit but, rather, to simply point out to learners where and
how they are applicable and encourage learners in developing clinical reasoning that combines analytic and nonanalytic processes.

The social aspect of AHDs is an important part of residents’ identifying with specific communities of practice within their respective programs.26 The various activities occurring in the interstices of AHDs—sharing stories and discourses, relationship building, community maintenance, and others—lend coherence through development of a shared repertoire and mutual engagement. Although residents in a program are all performing similar work, they are typically dispersed in different hospitals and services and thus are rarely together as a group except at their AHDs. AHDs provide a crucial space for them to become legitimate members engaged in a joint enterprise. This sharing and negotiation help them forge an identity and group identity and are a reification of what it means to be a learner in GME. Coordinating professional identity formation with development of competency is an important aspect of becoming a physician,26 and the social interactions in AHDs may facilitate this coordination.

Limitations

This study has a number of limitations. All three of the programs we examined are from a single center, most of the comments pertain to lectures and small-group sessions, and residents’ perspectives on other classroom activities, such as simulation, were not fully explored. Also, AHDs in other programs may deal with topics that were not included in the AHDs at our institution. Only residents’ perspectives are included, but data from other methods, such as direct participant observation, and/or from other stakeholders, such as faculty, would likely have been valuable. As well, this study focused on AHDs, and many residency programs have other ways of delivering classroom learning, such as shorter, more frequent teaching conferences.

Value and implications of this study

The findings of this study begin to bridge the gap between theory and practice for classroom learning in GME. These findings are likely transferable to other types and formats of classroom learning and suggest numerous questions for further investigation.

First, the social aspects of AHDs, and particularly their role in professional identity formation, deserve further elucidation. Second, the residents we studied believed that retention of knowledge from AHDs is suboptimal. Strategies for improving retention, such as test-enhanced learning, could be explored.27 Finally, although this study focused on residents’ perspectives, it also sheds light on the programmatic elements in AHDs. A typical AHD involves 120 hours of teaching time annually, and yet the overall goals of this block of time are not always clear from a programmatic perspective. Our findings provide a starting point for GME programs to critically evaluate the role and best use of formal classroom learning in their overall curricula.

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Dr. Chen is assistant professor, Department of Medicine and Centre for Health Education Scholarship, University of British Columbia, Vancouver, British Columbia, Canada.

Dr. McDonald is tutor for medical education, Centre for Medical Education, University of Dundee, Dundee, Scotland.

Dr. Pratt is professor, Department of Educational Studies, and senior scholar, Centre for Health Education Scholarship, University of British Columbia, Vancouver, British Columbia, Canada.

Ms. Wisener is research coordinator, eHealth Strategy Office, University of British Columbia, Vancouver, British Columbia, Canada.

Dr. Jarvis-Selinger is associate professor, Department of Surgery, assistant dean for faculty development, and director of curriculum, MD Undergraduate Program, University of British Columbia, Vancouver, British Columbia, Canada.

Dr. Chen

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