Education Research: Perspectives and Experiences of Clinical Neurology Faculty Regarding the End-of-Rotation Assessment

A Qualitative Study

Marie Carl Eugene, DO, MSHPE, Jose Montes-Rivera, MD, and Bobbie Ann Adair White, EdD, MA


Abstract

Introduction
End-of-rotation assessments (ERAs) completed by clinical faculty supervising medical students are an important component of medical student performance during clinical rotations. The quality and quantity of the formative and/or summative comments provided by faculty to students on ERAs vary. The goal of this study was to better understand the experiences, limitations, and barriers that may affect faculty at a single institution and its affiliated sites when completing this assessment.

Methods
A qualitative study design was used, with phenomenology as the qualitative design of inquiry. Clinical faculty at 3 student rotation sites who worked with students and had filled out the electronic assessment form were asked to participate. A virtual platform was used to conduct semistructured interviews. Transcripts of the recorded interviews were reviewed and analyzed to identify emerging and recurrent themes.

Results
Eleven faculty members (8 men and 3 women) were interviewed. Most participants felt that the time spent with medical students was limited, compromising the assessment process—particularly at sites where they are assigned to inpatient service for 1 week at a time. Longer intervals between end-of-rotation and completing the assessment limited details in the narrative components. Some participants were hesitant to assign students lower scores and to write negative comments in their assessments. Although constructive comments could be provided verbally, they were not always stipulated as comments on the assessment form. Many were concerned that written comments could negatively affect a student’s future career. The participants recognized the importance and benefit of writing comments specific to the individual student. Many opined that providing prewritten examples of suggested comments would result in a generic assessment.

Discussion
The experiences, limitations, and barriers that affected faculty members’ ability to assess medical students at the end of the neurology rotation included limited time spent with students, a longer time taken to fill out the assessment form, and reluctance to write negative comments that could potentially affect a student’s career. Specific comments about individual students were deemed important. Shorter and more frequent assessments, modifications to faculty schedules, faculty development initiatives, and adoption of a growth mindset are potential ways to overcome barriers faced by faculty.

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Go to Neurology.org/NE for full disclosures. Funding information and disclosures deemed relevant by the authors, if any, are provided at the end of the article.

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Feedback has been defined as “specific information about the comparison between a trainee’s observed performance and a standard, given with the intent to improve the trainee’s performance.” The RIME (reporter, interpreter, manager, and educator) framework is a tool for narrative feedback. This tool was devised to improve written assessment by classifying trainees’ behaviors and skills into 4 observed domains. Hanson et al. propose that an assessment system that uses comments based on learner observation, and the RIME framework would be more effective at assessing whether a learner is able to appropriately perform the activities required to be an effective physician in their chosen field.

In one study, the narrative-based ratings of student competence by a grading committee from an internal medicine rotation correlated with examination scores. Narrative assessments converted by a small group of experienced graders were at least as reliable as numeric scoring by evaluators in another study. In a third study, residents who required additional attention early on in residency were identified based on narrative comments from only several collected reports.

Assessment forms filled out by clinical faculty at academic institutions typically consist of competency-based questions or prompts that are answered using a Likert scale and/or a narrative section. Our ERA form, entitled Student Performance Evaluation, consists of 15 items that are rated using a 5-point Likert scale. There are 2 additional comment fields where formative and summative feedback can be provided (eAppendix 1, links.lww.com/NE9/A55). Feedback that is detailed and specific makes a greater contribution to students’ continued progress and development. After performing a content analysis on the narrative section of medical students’ assessment forms following a pediatric clerkship, the comments were infrequently related to basic clinical skills and were not specific enough to lead to effective change in a student’s performance.

We identified a disparity in the content of the comment fields designated for formative and summative feedback. Some comments are detailed and specific, while others are brief and nonspecific. The goal of this study was to better understand the experiences, limitations, and barriers that may be affecting faculty at our institution and its affiliated sites—as they complete the student assessment form. Gaining insight into those experiences and limitations could help guide changes to the clerkship and/or revisions to the form.

Methods

A qualitative study design was used for this study, with phenomenology as the qualitative design of inquiry. Participants were recruited using a purposive sampling technique given that the most important criterion is the participant’s experience with the phenomenon under study. Twenty-five faculty members from 3 training sites involved with assessing medical students during the neurology rotation were invited to participate. Those invited to participate had faculty appointments in the School of Medicine and were required to have filled out the electronic ERA. Residents and those who have never filled out the electronic form were excluded. Invitations were sent by email with an attached information sheet. The email invitation was resent to faculty who did not respond to the initial email.

A virtual platform (WebEx) was used by 2 of the researchers (M.C.E. and J.M.-R.) to conduct in-depth semistructured interviews. The interview protocol was devised by all 3 of the researchers as a guideline for asking questions during the interviews (eAppendix 2, links.lww.com/NE9/A56). The questions pertained to factors that could affect the experience of filling out an ERA form for medical students, including potential barriers. One of the interviewers (M.C.E.) has been the Clerkship Director for 8 years and received formal and informal training in conducting interviews as part of their graduate training. The second interviewer (J.M.-R.), who has been the Clerkship Site Director for 5 years and an Associate Program Director for 6 months, received informal training in conducting interviews. The supervising author (B.A.A.W.) is a faculty member at a graduate program who has received formal training in qualitative research and has experience conducting interviews.

To ensure continuity, both the interviewers (M.C.E. and J.M.-R.) attended 8 of the 10 interview sessions. The interviewers took notes and recorded the interviews from the virtual platform. Recorded conversations and notes were the forms of data acquired from faculty members. Asking for feedback from the participants about the data or their interpretation of the data, or “member checking,” is one of the ways the authors...
Eleven faculty members—8 men and 3 women—agreed to participate in the interviews. A clerkship site director, 2 fellowship directors, and an associate program director were among those who volunteered. Eight of the faculty members were assistant professors and 3 were associate professors. Their years in practice ranged from 3 to 27.

**The Assessment Process as a Whole and the Factors Influencing It**

The participants reported that their experience with the assessment process was positive, and they agreed that student assessments are valuable and necessary. Some faculty members described group dynamics and different student personalities as factors that could influence their assessment of students. Students who were more engaged and eager to answer questions were easier to assess. Other students have to be directly addressed if the evaluator wanted to assess their medical knowledge and understanding of a particular topic.

There’s sometimes also a group dynamic, whether there’s 1 student, who is very vocal, and may overshadow the other ones. Others are also very good or even better, but you can’t tell, because one may overshadow the other. Sometimes there’s 1 student that’s very strong, and the other 1 rides on that person’s coattails, and they chime in at the right time where it seems like they are interested. Also, the residents that are rotating on the team may change the dynamic. There are different personalities, and this is a factor that influences a lot. Some of the students are very vocal and will express their opinion, even if they are not sure about something, even if they are wrong. Some of the students will stay very quiet until they are prompted to answer the questions. Oftentimes those who are very quiet, when I ask a question, they actually know [the answers to] almost everything I ask, but they are quiet. So, I would say that the person who is evaluating [students] has to be watchful about differences in their personalities (Table 1).

Most of the participants felt that the time spent with the medical students was limited, which many felt compromised the assessment process. Faculty at the sites where they are assigned to inpatient service for 1 week at a time reported particular concern about not being able to spend enough time with the student during that week. The participants noted that the narratives could be more valuable and detailed if they spent more time with the students.

I think it is hard when we have a limited amount of time to get to know these students, and the way that our services are set up it is hard to have, I think, a real relationship with a student—it’s very surface (Table 1). Sometimes the student may not round long enough with us during the rotation. So, it will be difficult for me to give a really clear evaluation for them if they didn’t round with us fully. Usually, if they round with us the whole week or 4 days, I will be able to tell. Sometimes they have other stuff like lectures or [other] things, and then the rotation with us will be shorter. For those [students] it can be difficult to evaluate. But I don’t think that it’s a problem with the [assessment] process itself.

The participants noted that although it takes more time to write comments in the ERA, they recognize that writing specific comments about an individual student is important and beneficial to the learner.

Those questions where you click are easier to answer. It’s much more difficult to invent something on your own. However, I think that...
Timing of the evaluation

Time limitations: Time with students
I think it is hard when we have a limited amount of time to get to know these students, and the way that our services are set up it is hard to have, I think, a real relationship with a student—in it's very surface.

Time limitations: Completing the evaluation
Those questions where you click are easier to answer. It's much more difficult to invent something on your own. However, I think that comments [in the narrative component of the end-of-rotation assessment] that you generate on your own are probably more valuable in the sense that you have to think about what you [are going to] write. And you actually put something specific about a particular student that is not generic in the sense that you just click something. If there are a lot of good things to write, it's easy. It can be difficult if there are not many good things [to write] (Table 1).

The participants shared that the longer the time interval between working with the student and completing the ERA, the more likely they would forget details about the individual student. As such, the comments that are written would be more generic and less specific. All the participants advocated for receiving the ERA as soon as possible following their interaction with a student.

I always feel that the timeline between working with the student and the evaluation should be short because I will have fresh memories of a particular student in a particular scenario. When it takes too long for me to evaluate a student, I have more trouble remembering their performance in detail (Table 1).

Grade Inflation: Wanting to Help the Students
The participants explained that they had a natural inclination to want to help students by providing mainly positive comments. While they might provide constructive comments to students verbally, they were less inclined to write such comments in the ERA itself.

I also have in the back of my mind that for these students, particularly if they want to go into neurology, everyone's got to be above average. So that plays into how I evaluate students.

[The students] do meet expectations, but the way that grade inflation works, you can't just pass something. That's almost bad. I think a lot of us know that and find it very hard to use these evaluations constructively knowing that background (Table 2).

Most of the participants volunteered their reluctance to write “negative comments” in the ERA. Many were concerned these could negatively affect a student’s future career. Some participants acknowledged they were worried that such comments would not be well-received by students, including the possibility of litigation, if not properly framed.

It’s difficult to know what to write if there aren’t good things to write. It’s always easier to provide positive feedback than negative feedback. When I’m providing negative feedback, it requires more energy from me, because I want to be constructive. We don’t want to hurt people…makes me edit the text, measure words and see how things can be phrased in a in a better way… (Table 2).

We are cognizant about the effect that our evaluation can have on the future career of the medical students, so I usually avoid anything categorical or strong worded. There’s also litigation potential for strongly worded statements that can affect the student’s future [which] is in the back on my mind as well.

Feedback—even positively framed constructive feedback—is not always taken very well, especially when you don’t know the student very well.

Table 1 Summary of Themes and Quotes: Assessment Process and Influencing Factors

<table>
<thead>
<tr>
<th>Theme</th>
<th>Key quote</th>
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<td>Group dynamics</td>
<td>There are different personalities, and this is a factor that influences a lot. Some of the students are very vocal and will express their opinion, even if they are not sure about something, even if they are wrong. Some of the students will stay very quiet until they are prompted to answer the questions. Oftentimes those who are very quiet, when I ask a question, they actually know [the answers to] almost everything I ask, but they are quiet. So, I would say that the person who is evaluating [students] has to be watchful about differences in their personalities.</td>
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<td>Time limitations: Completing the evaluation</td>
<td>Those questions where you click are easier to answer. It’s much more difficult to invent something on your own. However, I think that comments [in the narrative component of the end-of-rotation assessment] that you generate on your own are probably more valuable in the sense that you have to think about what you [are going to] write. And you actually put something specific about a specific person that is not generic in the sense that you just click something. If there are a lot of good things to write, it’s easy. It can be difficult if there are not many good things [to write] (Table 1).</td>
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Table 2 Summary of Themes and Quotes: Grade Inflation

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<td>Wanting to help students</td>
<td>[The students] do meet expectations, but the way that grade inflation works, you can’t just pass something. That’s almost bad. I think a lot of us know that and find it very hard to use these evaluations constructively knowing that background.</td>
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<td>Avoidance of negative comments</td>
<td>It’s always easier to provide positive feedback than negative feedback. When I’m providing negative feedback, it requires more energy from me, because I want to be constructive. We don’t want to hurt people…makes me edit the text, measure words and see how things can be phrased in a in a better way…</td>
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<td>Weakening of the evaluation</td>
<td>[The assessment process] is valuable but I guess it’s only as valuable as the data you can collect. So, if everyone just rates every medical student as 5 out of 5, and they did a great job, then I guess it’s not so helpful. So having good data and good metrics to measure are important.</td>
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Although it is stipulated that the comments in the section entitled “formative feedback” would not be copied into the Medical Student Performance Evaluation and would be used for the purpose of continued student growth and improvement, faculty members still expressed reluctance to write comments that could be perceived as negative. Certain participants noted that the formative feedback section of the ERA was not the best or only way to provide constructive feedback. Some commented that one should take into consideration that feedback is also given verbally.

I think people worry about anything in box 16 (entitled “formative feedback”; eAppendix 1, links.lww.com/NE9/A55) a lot. I think all of us sort of worry about where is that going to go, even if it’s a blandly constructive thing. Where is that going? Where’s that really going to go?

“Grade inflation” leading to a student assessment that is less valuable was a concern for certain participants.

[The assessment process] is valuable but I guess it’s only as valuable as the data you can collect. So, if everyone just rates every medical student as 5 out of 5, and they did a great job, then I guess it’s not so helpful. So having good data and good metrics to measure are important (Table 2).

The Assessment Form Itself
Faculty members found that having the student’s picture on the ERA form was helpful. The questions with Likert scoring were described as easier to answer. Definitions outlining what constitutes a particular score on the Likert scale were reported as useful. A few of the participants noted that they had difficulty delineating which student should get a score of 4 vs one who gets a score of 5 in the various competencies.

Most of the students [perform] above expectations most of the time. They are very impressive, interested, they study hard, and they are looking for learning opportunities. So, for me a score of 4 or 5 is always difficult to judge… and I have a little bit of a dichotomy. The better the definitions of what constitutes a 4 or 5, the easier it would be for me (Table 3).

Most of the participants acknowledged that it takes more time to write comments about an individual student, they opined that having the option to write comments, is valuable. One faculty member noted the following: “Faculty need to feel free to provide comments whichever way they want because every student is different” (Table 3).

Most of the participants indicated that they would not change the form; the length of the form was appropriate with only a few stating that it was too long. While all the participants thought that an electronic form was easier to access, some cited technical difficulties including the need to use a password, password expiration, lack of familiarity with the website, and glitches on the website as barriers. One faculty member recommended using the platform used to fill out the resident assessments (Blackboard) to complete those of students.

Blackboard is easy because from the email, you just click the link. If it could be done on Blackboard, I think that would improve compliance, just because of how often Blackboard sends reminders and maybe other people’s familiarity with that software.

While some faculty members noted that a paper assessment would be more convenient because it could be filled out in real time, others noted that they would like to have easier access to the form on their smart phones.

If they just have the paper, you can just check it off.
If it’s possible to move directly from a link into the [assessment] page without a password…that will make it easier to fill it [out] directly on my phone…easier electronic access to the form [could make it easier to use] (Table 3).

Most of the participants noted that certain items in the ERA were difficult for them to assess, given the length of their interaction with the students. They also noted that those assessment items did not align with student responsibilities during the neurology rotation; specifically, items relating to advocating for patients to access health care services and

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<td>Method of assessment delivery</td>
<td>If it’s possible to move directly from a link into the [assessment] page without a password…that will make it easier to fill it [out] directly on my phone…easier electronic access to the form [could make it easier to use].</td>
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<td>Applicability of items on the form</td>
<td>There are some things that are often pretty hard to evaluate, I think—like advocates for patients….cost-effective care. That may be hard to assess during the rotation, or particularly if you just work with a student for a week or so. Maybe if there’s a standout person that shared their insights on a particular treatment modality or options…it’s otherwise hard to gauge really if they met expectations or if they’re a little bit better than that. Some of the questions—like presentation, writing notes, professionalism, and medical knowledge, are a little bit easier to answer in the time that you have [to spend with the students].</td>
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<td>Utility of prewritten, competency-based comments</td>
<td>...too cookie cutter; less personal; or too generic. Having to come up with comments for the narrative sections encourages the evaluator to think rather than clicking mindlessly.</td>
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assistance, considering cost-effectiveness in developing di-
agnostic and treatment strategies, and collaborating and co-
ordinating with different members of the health care team.
While the student’s interaction with the immediate neurology
patient care team is observed, the student’s interaction with
other professional team members can be difficult for the
evaluator to have specifically observed.

Sometimes when I’m the answering questions [on the ERA], a few of them
can feel like they don’t really fit with the experience the students have had. There are some things that are often pretty hard to evaluate, I think—like 
avocates for patients…cost-effective care. That may be hard to assess
during the rotation, or particularly if you just work with a student for a week or so. Maybe if there’s a standout person that shared their insights on a particular treatment modality or options…it’s otherwise hard to gauge really if they met expectations or if they’re a little bit better than that. Some of the questions—like presentation, writing notes, professionalism, and medical knowledge are a little bit easier to answer in the time that you have [to spend with the students] (Table 3).

When the participants were asked about having the option to
select from a sample of prewritten, competency-based com-
ments, they all noted that this would make filling out the
narrative component easier and would increase the total word
count in the narrative components of the ERA. However, the
specific comments unique to the individual student would be
lost. They described that the ERA would be “too cookie
cutter; less personal; or too generic.” One faculty member
stated: “Having to come up with comments for the narrative
sections encourages the evaluator to think rather than clicking
mindlessly” (Table 3).

Several participants suggested having both options, noting
that those who have a tendency to write detailed and specific
comments would continue to do so. However, the faculty
members who find it more difficult to write detailed comments
might choose from the sample of prewritten com-
ments, perhaps resulting in a more meaningful student
assessment. Some participants noted that though they would
not click on the prewritten comments, having those com-
ments as part of the ERA would serve as a guide about the
types of statements they can use to describe a student’s per-
formance. One participant specifically stated that those
statements would help guide their specific comments about a
student given that English is not their first language.

Another suggestion from several participants was to add “hard stops” after each competency so that the faculty members
would be reminded to add specific comments pertaining to
the assigned score. Some suggested that this can be done for
certain competencies so as not to discourage evaluators with a
longer ERA form and the need to provide comments after
every competency.

I think if after every [assessment] item, there’s a box underneath for attendings to give feedback again, I am not sure if the evaluators will
actually do that, but at least it gives them an option to write something
based on the number they chose. Though, I think people like to keep it
simple—give them more boxes it’s going to get more frustrating for them.

On average, the participants reported that they took 5–15
minutes to fill out the ERA. Ten of the 11 faculty participants
interviewed noted that a lack of time was not a limiting factor
to writing more detailed and specific comments in the nar-
rative sections. The remaining participant noted that during
instances when they are required to fill out assessments for
several learners on the team, this tends to limit the amount
that is written in the narrative sections of the various forms. Table 1 lists a summary of themes and quotes from this study.

Discussion

This study aimed to better understand the experiences, lim-
itations, and barriers that may be affecting neurology clinical faculty members at 3 different sites as they complete the
student ERA including the narrative assessment. A qualitative
study design was used for this study, with phenomenology as
the qualitative design of inquiry.

The importance and benefits of detailed and specific narrative comments have been previously documented.2-9,16-18 This
study adds to the understanding of the barriers of reporting
such comments by using a qualitative methodology, which
allowed for a deeper understanding of the experiences of clinical faculty. We found that time was a major barrier in many ways. While the time taken to fill out a student’s ERA was not con-
sidered a limiting factor, many participants noted that the as-
essment process could be more valuable if they were able to
spend more time with the individual students. The participants
also noted that a shorter time interval between working with the
student and filling out the ERA allowed them to write more
specific comments. Shorter assessments, done more frequently, at
the end of every week might be beneficial in addressing this
concern. Weekly feedback forms that address the student’s per-
formance with specific examples could provide more continuity.
The attending physician filling out the student’s ERA could use
those weekly assessments when completing the ERA including
the narrative comments to depict the student’s progress
throughout the rotation. The importance of continuity can also
be taken into consideration when faculty schedules are devised.

The participants commented about the tendency to ascribe
higher scores and to write positive comments. Some partici-
pants noted that while they would provide constructive feedback to medical students verbally, they were less inclined
to write such feedback on the assessment form. Several of the
participants reported concern about potential litigation as-
associated with perceived negative comments. None of the
participants offered possible solutions to this conundrum.
Multipronged faculty development initiatives might provide
faculty with the appropriate tools and confidence required to
offer both positive and constructive feedback.19 An assess-
ment form that requires constructive comments (some of
which could be provided) is another potential solution. A
specific observation that supports the constructive comment
could also be requested. Changes that promote Dweck’s
self-theory and a growth mindset in learners, faculty, and our medical educational systems is another important consideration. An educational alliance that adopts a growth mindset would allow faculty to provide constructive feedback to learners in favor of continued growth and improvement as the learner advances toward mastering various competencies. Contrarily, a fixed mindset placing emphasis on scores and performance orientation results in a culture where learners and faculty feel compelled to conceal areas requiring further development.

All the participants noted that although having samples of prewritten comments for the narrative component of the ERA would make it easier for faculty to fill out this part of the form, those comments would not be unique to the individual students. Three faculty members noted that they would appreciate this option as a guide to writing comments in the narrative sections, particularly when English is not their first language.

Two particular items on the ERA form were cited by many of the participants as difficult to assess during the neurology rotation. Revisions to the form so that the components are clearly aligned with observable student performance may be considered.

Some faculty members suggested increasing the number of required comment fields in the form. Those same participants cautioned that this modification could make the ERA more onerous leading to vaguer comments or faculty declining to complete the form. One study assessed the effect of increasing total comment fields, finding that the proportion of constructive comments were lower with the revised form.

A qualitative study exploring the challenges faced by faculty in providing trainees with meaningful assessment and feedback in a Canadian surgical residency training program was identified during a literature search. Some similar themes were described including faculty being reluctant to provide constructive feedback or report poor performance, increased effort in completing assessments for poorly performing learners, insufficient interaction with learners to complete an assessment, and fear of legal action due to negative comments.

Some themes reported in the study by McQueen et al. were not identified in this study. The participants in this study denied that the time spent on clinical duties limited their ability to fill out the ERA including the ability to provide detailed comments. The surgeons in the study by McQueen et al. also reported a fear of being labeled as intimidating or harassing, which was not stipulated as a concern by the neurologists in this study.

There are certain limitations to our study. The purposive sampling technique inherent to this qualitative study limits the interviews to select faculty members. Transferability, or the extent to which the findings of this study can be applied to different settings, was limited in that this study was performed in the specialty of neurology, at 3 affiliate sites, from 1 institution. Although the outcomes may not be generalizeable to other specialties, the authors anticipate that the information from this study may be beneficial to clerkship directors and other medical educators. The specific form used by various medical schools varies, which could also limit the transferability of some of the findings of this study.

Conducting similar qualitative studies in other medical specialties could provide additional insight into the factors and potential limitations that faculty experience when completing an ERA for medical students. Studies to assess whether changes to the assessment form, the student clerks’ schedules, or faculty schedules have a significant impact on student learning would also be insightful.

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**Disclosure**

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**Appendix Authors**

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