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Graded Responsibility Among Emergency Medicine Residency Programs

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on residents. This burden increased with the adoption of the ACGME Milestones in 2013, when EM programs were tasked with obtaining data on 23 Milestones for each resident. With persistently low evaluation numbers we decided to implement a new strategy to improve feedback received.

Objectives: We sought to determine whether asking faculty to complete less evaluations per month would paradoxically result in increased quality and quantity of resident evaluations we received.

Methods: Historically in our program, we asked each faculty member to evaluate all the residents rotating through the Emergency Department each month (approximately 15 residents per month). Starting in July 2016, we asked each faculty member to provide meaningful feedback on only 3 residents per month. Completion of 36 evaluations at the end of the academic year was tallied and tied to faculty compensation.

Results: In the academic year before the intervention we received 469 evaluations on 24 residents, for an average of 19.5 evaluations per resident. Post-intervention we received 1019 evaluations on 26 residents, for an average of 39.2 evaluations per resident. Pre-intervention no faculty completed the targeted number of evaluations. Post-intervention, 59.4% of faculty completed the expected number of evaluations.

Conclusions: Giving EM faculty physicians a clear, achievable metric for the number of evaluations they are expected to complete can result in a significantly increased number of evaluations. This effect is seen even with a low target such as demonstrated in our study. The strategy we used could easily be translated to other residency programs and specialties.

6 Examining the Relationship Between the AAMC Standardized Video Interview and Step 2 Cs Subscores

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Background: The Association of American Medical Colleges (AAMC) Structured Video Interview (SVI) is an assessment tool designed to measure interpersonal and communication skills and professionalism, two competencies identified by the Accreditation Council for Graduate Medical Education (ACGME) as critical when considering information about residency applicants. Step 2 CS of the USMLE is designed to assess the applicant's patient centered skills including communication. As both the SVI and CS attempt to measure related competencies, demonstrating that the SVI positively relates to the relevant subscore of the Step 2 CS will bolster the validity case for the SVI as a valuable tool for

residency selection and contribute to the nomological network for residency selection tools in emergency medicine.

Objectives: The goal of the study is to examine the relationship between scores on the SVI and subscores for the Step 2 CS Exam. We expect SVI will have the strongest relation to the CIS (Communication and Interpersonal Skills) subscore, and the weakest relation to the SEP (Standardized English proficiency) subscore.

Methods: This is an observational retrospective study of existing data for 2201 residency applicants in 2017 who had both valid Step 2 CS subscores and SVI scores. We obtained data for the full population of 2017 residency applicants with both scores and examined Pearson correlations between each of the three subscores and SVI total score.

Results: SVI total score and Step 2 CS subscores exhibited sufficient variance for prediction. SVI was correlated at $r = .16$ with Step 2 CIS score, $r = .13$ with Step 2 Integrated Clinical Encounter (ICE) score, and $r = .10$ with Step 2 SEP score.

Conclusions: There is a small positive correlation between the SVI and each Step 2 subscore. As hypothesized, the strongest relation is between the Step 2 CIS score and SVI, and the weakest relation is between the Step 2 SEP score and SVI. Although these correlations are small, they are in line with reported correlations in the employment and educational literature for personality and non-cognitive competencies, which are generally more difficult to assess. Further research should examine the predictive validity of selection tools for emergency medicine with additional outcome variables.

7 Graded Responsibility Among Emergency Medicine Residency Programs

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Background: The ACGME requires all residency programs to provide increasing autonomy as residents progress through training, known as graded responsibility. However, there is little guidance on how to implement graded responsibility in practice and a paucity of literature on how it is currently implemented among emergency medicine residency programs.

Objectives: We sought to elucidate which domains of practice are subject to graded responsibility among EM residency programs and what factors are used to determine a resident's progression within each domain. We hypothesized that postgraduate year is the most commonly applied factor in determining graded responsibility.

Methods: A 23-question web-based survey was created, assessed for response process validity, and distributed by

email to 162 ACGME-accredited EM residency program directors from April through October 2018. Names and email addresses were obtained from the CORD mailing list and programs' public websites. Responses were manually screened for duplicate entries from the same program, and only the most recent response was recorded.

Results: We received 91 individual program responses (56% response rate) to the survey. Graded responsibility was utilized for intubating trauma patients by 54% of programs, managing critically ill trauma patients by 60% of programs, managing critically ill medical patients by 30% of programs, acting as physician-in-triage by 50% of applicable programs, supervising medical students by 68% of applicable programs, supervising junior residents by 50% of applicable programs, and moonlighting by 91% of programs. When graded responsibility was applied to a domain of practice, PGY level was ranked an "extremely important" or "very important" factor between 81% and 100% of the time, more frequently than any other factor.

Conclusions: There is no clear prevailing pattern to whether EM residency programs are utilizing graded responsibility for most surveyed domains of practice. When graded responsibility is applied, PGY level is consistently the most important factor in determining progression. While competency-based educational models such as milestones and entrustable professional activities (EPAs) appear to be a major feature in the future direction of graduate medical education, EM residency programs still rely heavily on a time-based learning model.

Table 1. Utilization of graded responsibility among surveyed emergency medicine residency programs.

Domain of practice	All residents allowed to	Only some residents allowed to	No residents allowed to	Not applicable
Intubating trauma patients	42 (46.2%)	49 (53.8%)	0 (0.0%)	---
Managing critically ill trauma patients	36 (40.4%)	53 (59.6%)	0 (0.0%)	---
Managing critically ill medical patients	61 (70.1%)	26 (29.9%)	0 (0.0%)	---
Acting as physician-in-triage	5 (13.2%)*	19 (50.0%)*	14 (36.8%)*	47
Supervising medical students	26 (31.7%)*	56 (68.3%)*	0 (0.0%)	3
Supervising junior residents	26 (36.1%)*	36 (50.0%)*	10 (13.9%)*	7
Moonlighting	2 (2.4%)	77 (90.6%)	6 (7.1%)	---

* Percentage calculated excluding "not applicable" responses

Table 2. Factors rated as "extremely important" or "very important" in determining progression of graded responsibility.

Domain of practice	PGY level	Completion of certain rotation	Clinical Competency Committee recommendations	Faculty evaluations	Observation of having performed task previously	Simulation	Milestone assessment
Intubating trauma patients	38 (80.9%)	25 (53.2%)	10 (21.3%)	7 (14.9%)	25 (53.2%)	9 (19.1%)	12 (25.5%)
Managing critically ill trauma patients	47 (94.0%)	23 (46.9%)	17 (34.0%)	15 (30.6%)	15 (30.6%)	9 (18.0%)	11 (22.4%)
Managing critically ill medical patients	22 (88.0%)	9 (36.0%)	7 (28.0%)	7 (28.0%)	7 (28.0%)	4 (16.0%)	2 (8.0%)
Acting as physician-in-triage	19 (100.0%)	1 (5.3%)	6 (31.6%)	5 (26.3%)	2 (10.5%)	2 (10.5%)	1 (5.3%)
Supervising medical students	52 (92.9%)	5 (9.1%)	17 (30.9%)	17 (30.9%)	10 (18.2%)	1 (1.8%)	6 (10.9%)
Supervising junior residents	36 (100.0%)	4 (11.4%)	20 (55.6%)	15 (41.7%)	11 (31.4%)	4 (11.4%)	5 (14.3%)
Moonlighting	77 (100.0%)	14 (18.4%)	55 (71.4%)	45 (58.4%)	25 (32.9%)	10 (13.2%)	36 (47.4%)

8 Learning Experience Design (LED) in Health Professions Education: A Critical Review

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Background: Internet-based learning (IBL) technologies have become increasingly prevalent in medical education, particularly in Emergency Medicine and Critical Care. Studies have shown learner preference towards IBL, emphasizing the importance of optimizing these platforms. Learning experience design (LED) is an approach aimed to enhance the learning experience in order to improve performance. This strategy can be applied to IBL in order to optimize learning outcomes.

Objectives: To critically evaluate current literature to identify optimal design features for text and media presentation in IBL technology.

Methods: Articles for this review were located using the PubMed database, followed by hand tracing of the initial search results. Exclusion criteria included studies that used CRT monitors, Kindle PaperWhite, or non-adult learners, and descriptive articles without comparisons.

Results: 42 articles were included with the following results (Table 1). Larger character sizes had greater legibility, shorter reading time, higher reader preference, lower mental workload, and greater accuracy. Veranda and Arial typefaces had greater legibility, higher reader preference, and lower mental workload than Times New Roman. Reading accuracy was unchanged with color and decreased with case enhancement. Boldface and font smoothing enhancements improved, while italics worsened legibility. Font smoothing also had higher reader preference and lower mental workload. Positive polarity increased legibility, reader preference, and outcomes. Greater glare increased learner fatigue, but did not have impact on performance. Greater luminance increased performance, although may be screen contrast dependent. Increased interletter spacing lead to slower reading times, but improved performance, while increased interword spacing lead to faster reading times with variable impact on outcome. Longer line lengths resulted in faster speed, yet poorer accuracy and reader preference. Accuracy was greatest with RSVP display, while reading time was fastest with scrolling display.