Grading Inconsistencies: A Barrier to Admission and Progression in Medical Laboratory Education Programs

KU SCHOOL OF HEALTH PROFESSIONS
The University of Kansas

Kasey Edwardson, Ph.D., MLS(ASCP)[CM]SC[CM]
Department of Clinical Laboratory Sciences, The University of Kansas Medical Center
Center for Educational Research in Clinical Laboratory Sciences

Abstract

Learners expect to be graded and educators accept grading as common practice, yet it is a relatively new concept. The first official grading system emerged in 1785 at Yale. Letter grades followed a century later in 1898, and the 100-point percentage scale came in the early 1900s.[1-2] The emergence of grading is due primarily because there was a desire for standardization between schools, but standardization of how learners are assessed in education is still lacking. This holds true, and is quite evident, in medical laboratory education programs (MLEPs), as the grade requirements for admission and progression through the program vary across MLEPs. In a previous review of ASCLS Region VI MLEPs, it was found that most programs require a "C" average. However, programs' definitions of "C" differed with some requiring at least 70% and others 78%. These variations in grade scale not only raise concerns for standardization but also raise questions on access and equity in MLEPs. Previous data was revisited and a case study on ASCLS Region VI MLEPs was performed. Data on the minimum GPA for admission and progression through the program, grading scales used in the program, and grading scales for general education courses were collected. Data was reviewed to observe consistencies, or lack thereof, in MLEP grading. This education case study explores the differences in grading scales more in-depth and provides descriptive statistics on scales used and program requirements. This poster highlights grading considerations clinical laboratory educators should make, and barriers that can result from inconsistencies of grading scales between MLEPs. Additionally, this poster highlights less-common alternatives to the letter grading system for MLEPs and ways to limit the barriers introduced by grading inconsistencies.

Methods

A list of NAACLS-accredited MLT and MLS programs in Region VI was obtained, and program websites were subsequently visited. Websites were searched for grading policies in various locations. Grading policies were found in admissions guidelines, on main program pages, student handbooks, and college catalogs. Grade cutoffs, or definitions, were entered into an Excel spreadsheet along with grade point scales. The data was then evaluated for frequency of grade definitions and differences between grading scales.

Results

There are 48 MLEPs in ASCLS Region VI. 21 of these had grading scales accessible on their websites. All programs included in this case study are NAACLS – accredited and meet the 75% pass rate on the Board of Certification standard.

Most programs require a "C", 70%, or 2.0 to get in and/or progress through the program. Interestingly, a "C" is not always a 70%. In fact, some programs classify 70% as a "C-" which equates to a 1.67 grade point value.

Out of 21 programs, there are 20 unique grading scales. The only repeated grading scale was broken into increments of 10% as follows:

A 90 – 100%
B 80-89%
C 70 – 79%
D 60 – 69%
F 0 – 60%

Six programs utilize grading scales that include half-letter grades, three of which even define an "A+" and/or a "D-".

Five programs skip "D" in the grading scale, leaving no possible grade between a "C", or "C-" in some cases, and an "F". Two of these programs **define an "F" as 0 – 75%.** The most extreme grading scales are quite similar and only differ by one percentage in their definitions of "B" and "C".

A 92 – 100%	A 92 – 100%
B 83 – 91%	B 84 – 91%
C 75 – 82%	C 75 – 83%
F 0 – 75%	F 0 – 75%

The lower limit of a "C" ranges from 70% to 78%. The lower limit of a "C" is 70% at five institutions; 73% at four institutions; 74% at one institution; 75% at five institutions; 76% at one institution; 77% at one institution; and 78% at four institutions.

Discussion & Implications

Three programs in ASCLS Region VI were compared to see if there appears to be any relationship between grading scales and program BOC pass rate:

MLEP #1	MLEP #2	MLEP #3
Requires a C average, or 2.0 on a 4.0 scale	Requires a C average, or 2.0 on a 4.0 scale	Requires a C average, or 2.0 on a 4.0 scale
C = 75 – 82%	**C = 78 – 83%**	**C = 70 – 79%**
2018-2021 BOC Pass Rate **95%**	2018-2021 BOC Pass Rate **86%**	2018-2021 BOC Pass Rate **94%**

This snapshot implies that the program with the highest and tightest definition of "C" does not necessarily have a higher Board of Certification pass rate. Regardless of grading scale used, these three programs still meet the NAACLS standard of a 75% pass rate. **These inequities can prevent capable future medical laboratory professionals from entering and progressing through MLEPs and further limit our much-needed workforce supply.**

More so, these variations, particularly scales with more stringent grade cutoffs, have seemingly little basis.

Alternative Approaches

Standardization across programs should be the first goal for remedying grading inconsistencies between MLEPs. However, this would be a tremendous endeavor requiring the cooperation of programs and their institutions. Instead, there are several alternative approaches to the percentage-based grading scales that can be applied to create a more equitable learning environment.

Grade-Free Zones[3]:
Grading only a portion of the class or specific learning activities.

Self-Assessment and Process Letters[3]: Learners evaluate themselves and memo about their learning. Often, self-scoring is harsher than instructor grading.

Minimal Grading[3]:
Simplify gradations. (e.g., pass/fail, novice/competent/proficient).

Competency-Based Assessment[3]:
Measuring observable behaviors (i.e., tasks)

Conclusions

There is a lack of standardization between MLEPs, and grading is an area of major concern as it relates to an individual's ability to enter and progress through an MLEP. More research needs to be done to further evaluate how these differences impact learners, and consequently our workforce supply. The degree of variability between programs is concerning and unnecessary. There seems to be little basis for the differences in grading scales,. Furthermore, MLEPs need to move away from this grading-centered approach to a learning-centered approach to promote the true learning and mastery of medical laboratory concepts rather than simply "making the grade."

References

1. Blum, S. D. (2020). Why ungrade? Why grade? In S. D. Blum, *UNgrading: Why rating students undermines learning (and what to do instead)* (pp. 1-22). Morgantown: West Virginia University Press.

2. Schinske, J., & Tanner, K. (2014). Teaching more by grading less (or differently). *CBE-Life Sciences Education, 13,* 159-166. doi:https://doi.org/10.1187/cbe.cbe-14-03-0054

3. Strommel, J. (2020). How to ungrade. In S. D. Blum, *UNgrading: Why rating students undermines learning (and what to do instead)* (pp. 25-41). Morgantown: West Virginia University Press.

Contact Information

For additional information regarding the content on this poster, you may contact:

Kasey Edwardson

kedwardson@kumc.edu
University of Kansas
Medical Center
Department of Clinical
Laboratory Sciences
cls.kumc.edu

CERCLS
cercls.contact@gmail.com

Center for Educational Research in Clinical Laboratory Sciences
CERCLS