DESIGNING AN INSTRUCTIONAL MICROBIAL PERIODIC TABLE FOR CLINICAL MICROBIOLOGY: CRITICAL THINKING

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INTRODUCTION:

The Elemental Periodic Table recently (2019) recorded it 150th Anniversary. While multiple periodic table-likes have been created in multiple far ranging disciplines.

There was only one in microbiology, environmental; none in clinical.

OBJECTIVES:

Here, we wanted to construct a visual, Microbial Periodic Table (MPT) for educational purposes linking health care providers and schools, providing an interface between disparate sciences.

We primarily wanted to catalyze critical thinking in educating graduate students in clinical microbiology.

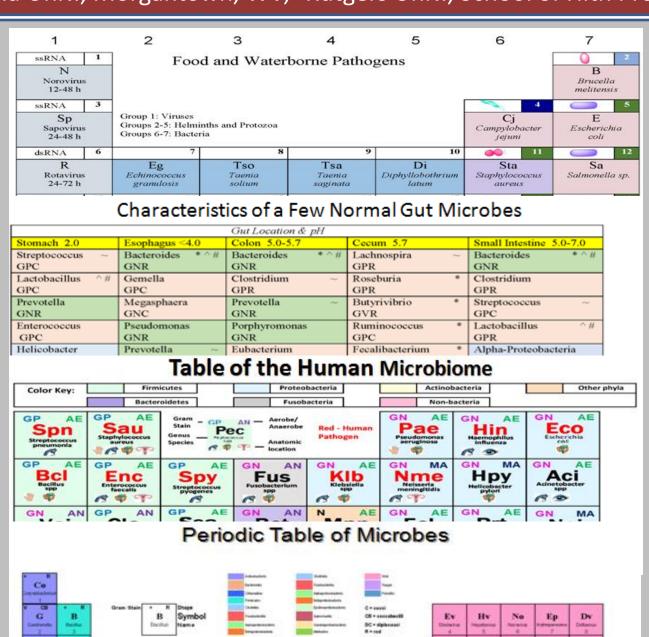
MATERIALS AND METHODS:

12 Graduate Students, all certified Medical Laboratory Scientists (MLS-ASCP), 3 Doctorate and 9 MS candidates, were enrolled in the online, Infectious Disease Course, Rutgers University, School of Health Professional;

They were assigned to develop the MPT, individually, with broad instructions targeting clinical microbiology.

Unit discussion were frequent and encouraged.

The design necessitated strong literature support with footnotes, highlighting critical thinking.



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RESULTS:

The 12 MPT visual presentations were creative, often originating from Xcel spread sheets, magnifying color combinations.

All designs were 2 dimensional, with individual boxes multifunctional including guides and symbol descriptions, reference supported.

Topics ranged from virology to specific diseases, GUT and Vaginal locations.

Parameters selected varied, including size, multiple shapes, Gram Stain, anatomic location, Eh and/or metabolism.

Student peer-review/ critique revealed 4 superior formats and a range of creative thinking, recognizing visual presentations could be an individual strength.

CONCLUSION

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The development of the first MPT, highlighting non-verbal communication and critical thinking was a challenging educational experience.

It commanded much attention, while benefiting each student differently.

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