Hollywood Actor Role Playing Creates a Flipped Classroom for Critical Thinking

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Introduction

Teaching critical thinking and complex ideas is the goal. Graduate and post-graduate education requires understanding intricate ideas and philosophies. This is achieved by learning how to use critical thinking skills. Unfortunately, current society promotes instant gratification (cell phones, the internet, and social media) and students quickly loose interest with issues that are not simple or easy to comprehend.

Question of this study

How can we keep students engaged teaching them high level critical thinking skills (academic research) and vastly complex scientific ideas (epigenetics)?

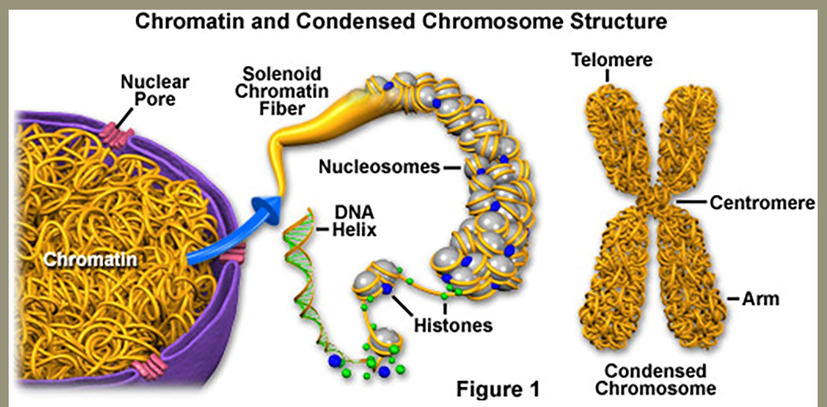

Figure 1. Complex structure of DNA states in the nucleus. (Micro.magnet.fsu.edu)

Methods

Promote creativity through critical thinking by using students as actors/participants. These 'actors' demonstrate complex scientific phenomena through action to help comprehension.

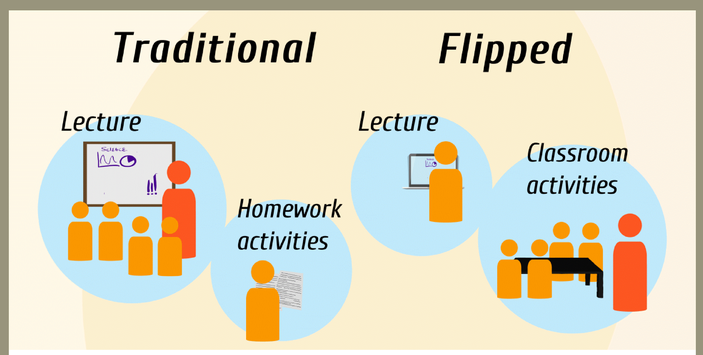

Figure 2. Traditional classrooms use a 'lecturer-attendee' model while the Flipped classroom uses a 'mentor-participant' model. (wave.video)

Results

Studies show students perform better when actively engaged in the learning process.

Figure 3. Hollywood is the acting capital of the world. (MercatorNet)

Figure 4. Nuo rho mein model of nuclear chromatin compaction patterns. (Matadornetwork.net)

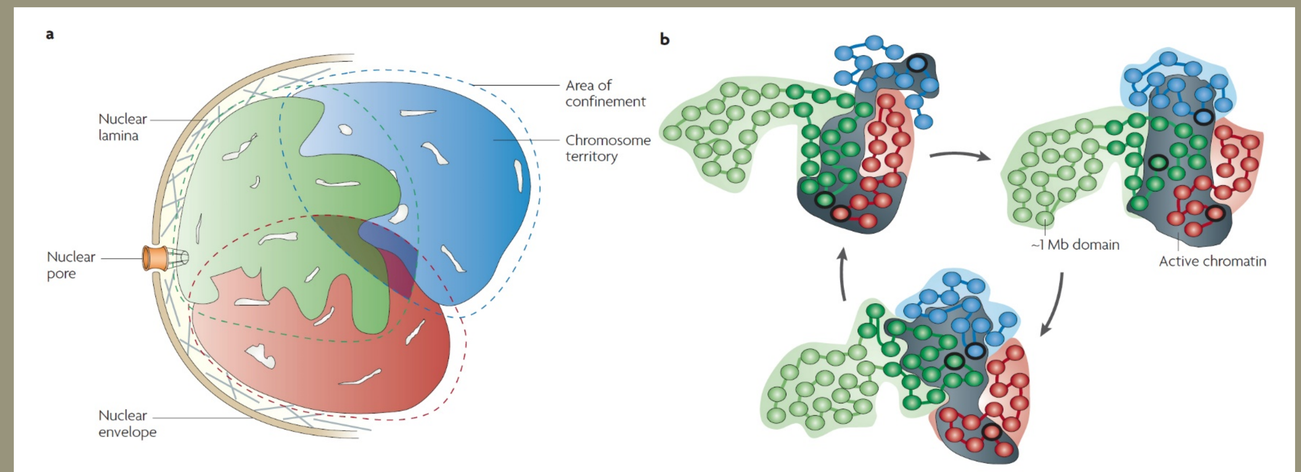

Figure 5. DNA chromatin regions are dynamic and will move to interact to form novel gene expression patterns depending on cell state (Lanctôt C. et al. Dynamic genome architecture in the nuclear space: regulation of gene expression in three dimensions. Nature 2007)

Conclusion

Active role playing and a flipped classroom improve critical thinking skills and comprehension of complex science. This process helps promote increased attention span and reduces learning difficulty leading to better performance.

References

Chen F. et al. A systematic review of the effectiveness of flipped classrooms in medical education. Medical Education 2017.
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