

Cultivating Graduate Nurses' Knowledge of Pathophysiology Through Gamification

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INTRODUCTION

Implementing gamification in advanced pathophysiology courses as an innovative approach to graduate nursing education engages graduate nursing students and can be utilized as supplemental pedagogical content.

METHODS

Design: Quasi-experimental

Comparisons: OL 2018: OL 2019 students

F2F 2018: F2F 2019 students

OL + F2F 2018 : OL + F2F students 2019

Sample: Graduate advanced practice nursing students enrolled in advanced pathophysiology class online or face-to-face.

2018 OL students $n = 23$ 2019 OL students $n = 28$

2018 F2F students $n = 21$ 2019 F2F students $n = 19$

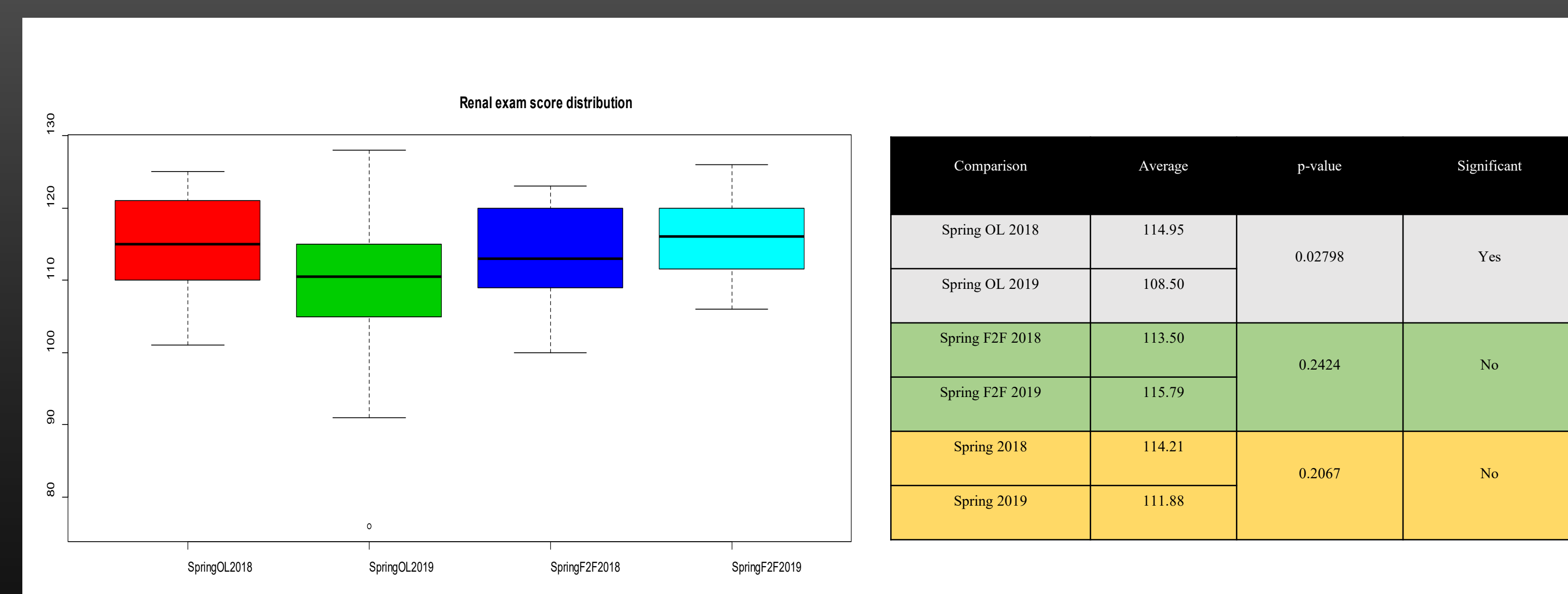
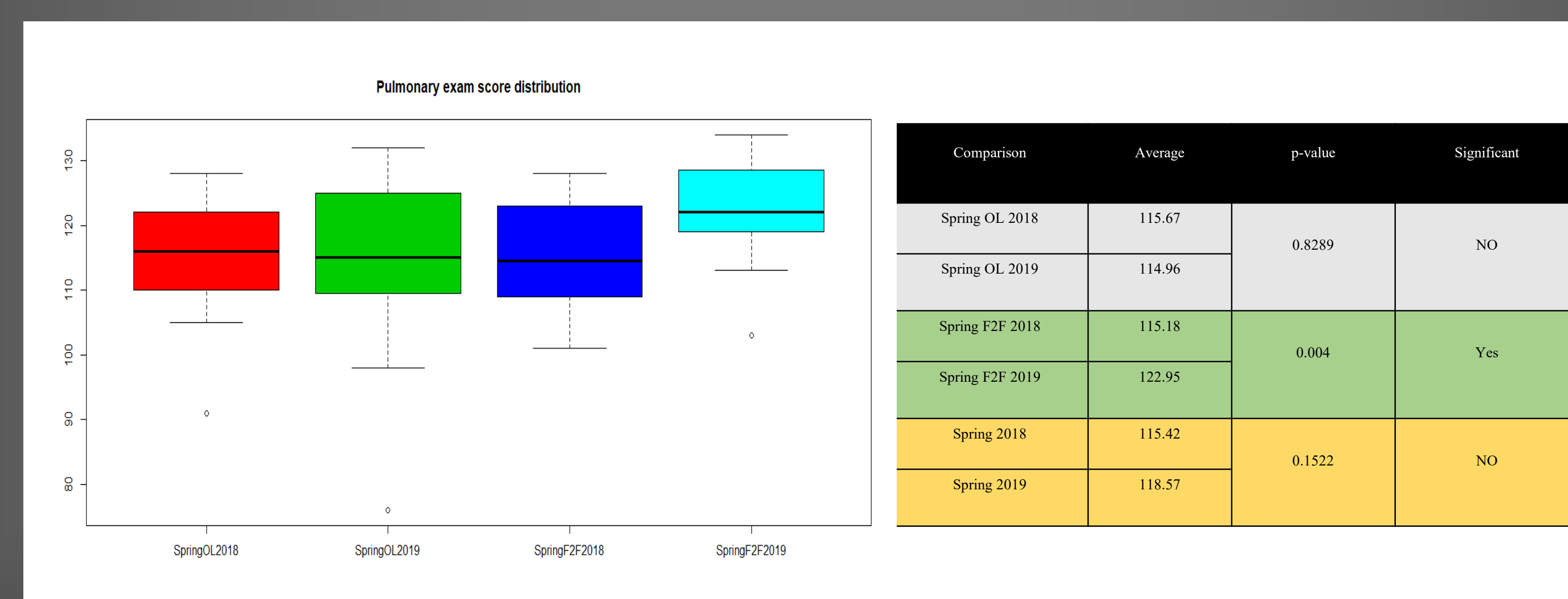
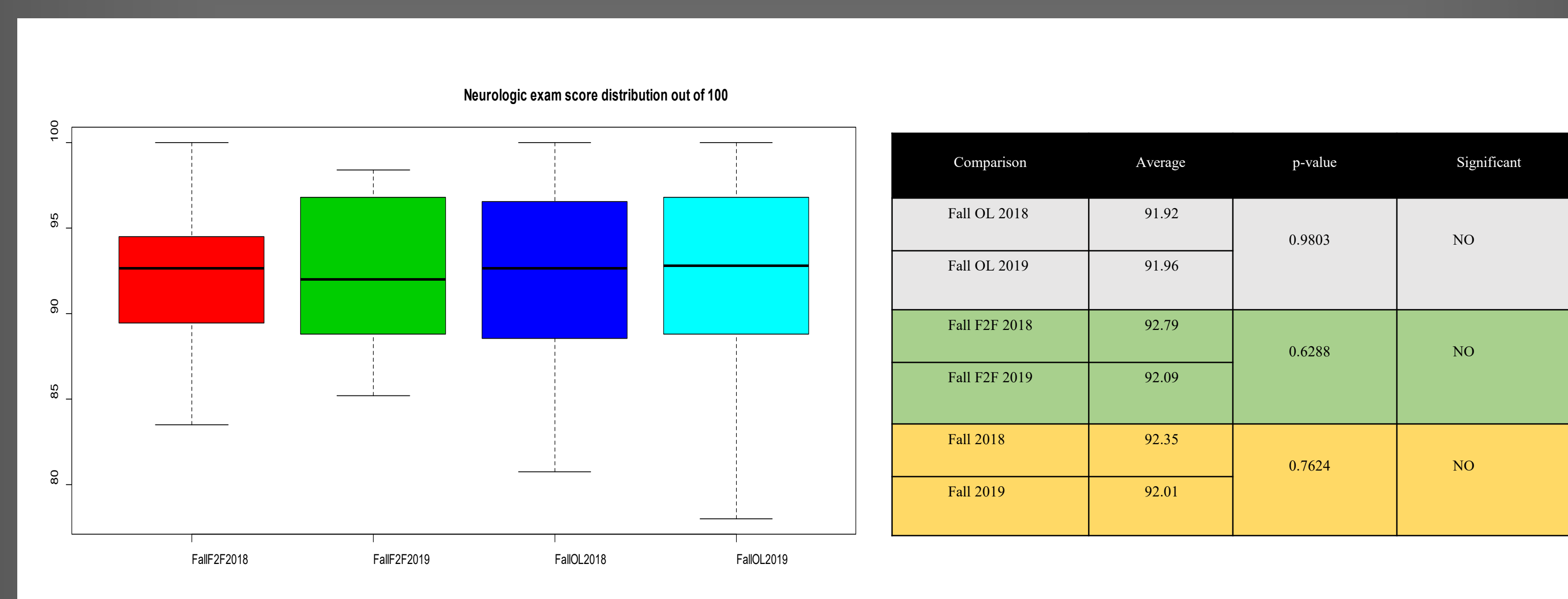
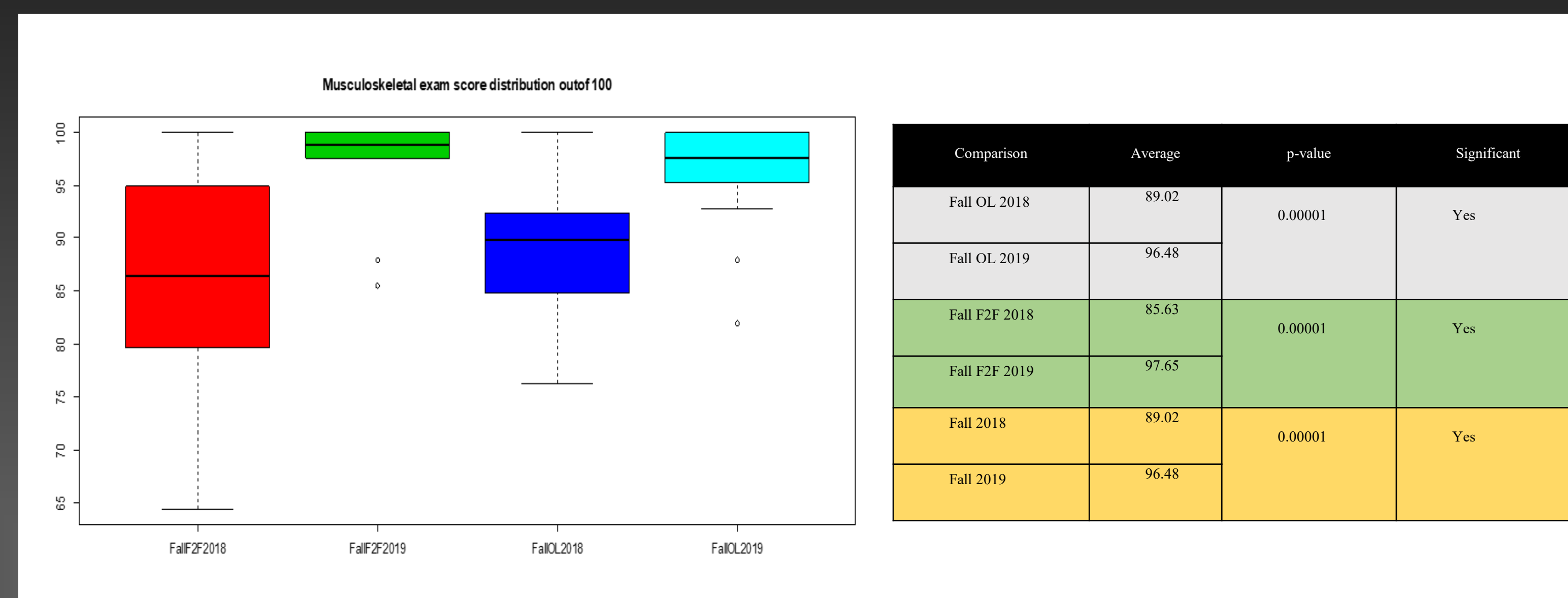
INTERVENTION

Exam	Semester	Game
Musculoskeletal	Fall 2019	Case Study + Kahoot
Neurologic	Fall 2019	Active Learning + Case Study
Pulmonary	Spring 2019	Shadow Health Concept Lab (CL) + Kahoot
Renal	Spring 2019	Shadow Health CL

DATA ANALYSIS

Advanced pathophysiology exam scores for musculoskeletal and neurologic systems from fall of 2018 were compared to the exam scores from fall 2019 for both OL and F2F graduate advanced practice nursing students. Exam scores for renal and pulmonary systems from spring of 2018 were compared to the exam scores from spring 2019 for both OL and F2F graduate advanced practice nursing students. Statistical analysis was completed using t -test.

RESULTS



LEGEND

OL = Online Distance Learning Students Exam Scores

F2F = Face to Face Traditional Students Exam Scores

DISCUSSION

Strengths:

- Students support the use of gamification and find it useful as a learning tool.
- Use of visualization gamification like shadow health promotes knowledge retention.

Areas Needing Improvement:

- Types of gamification utilized to promote critical thinking skills.
- Need larger sample size.

CONCLUSION

Gamification engages students in both online and face-to-face environments. Incorporating visualization concept labs into learning advanced pathophysiology content improves retention of material. Games adapted for classroom learning must engender real experiences encountered in practice to be effective in retention of material. Enhanced learning techniques, such as gamification, must be cost effective, organized, and incorporated into class design.

FUTURE RESEARCH

- Student evaluations and comments about gamification techniques will be analyzed for major themes.
- Research should focus on using gamification techniques that support critical thinking and not just memorization.
- Research needs to be conducted on 3-D interactive visualization used in the classroom which supports multiple learning techniques.

REFERENCES

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