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Online, Classroom and Video Learning – Differences in Student Performance?

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From the Selected Works of John Griffith

Winter January 12, 2019

RSCH 202 - Difference in grades - grade distribution and pass rates between online-classroom and video learning Roberts Griffith Faulconer.pdf

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Online, Classroom and Video Learning – Differences in Student Performance?

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How does type of class impact student performance?

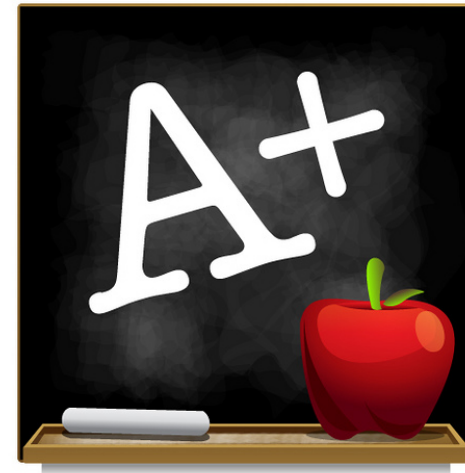
Type of learning

- Online
- Classroom
- Video synchronous (EagleVision)

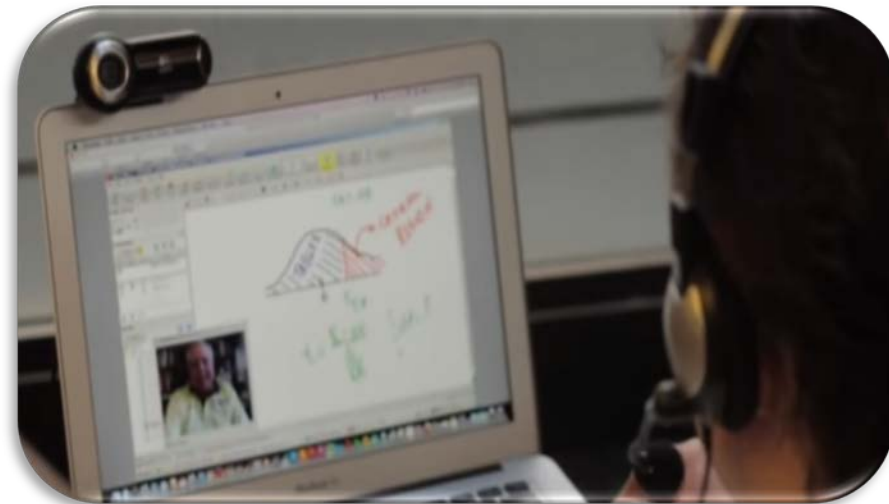


Student performance

- Failure rate
- Grade distribution
- Withdrawal rate



Learning modes



Background

Why is this important?

- Growing shift to distance learning
- Videosynchronous is joining online as acceptable method
- Introductory research is a foundation course

The research is split:

- Difficulty in comparing online to traditional (Phipps and Mersotis, 1999)
- Online and effective way to deliver courses (Hackbarth, 1996; Ni, 2013)
- Increased online drop rates (Njenga and Fourie, 2010)

Method

Sample

- 2,097 Course grades
- 2015-16 School year

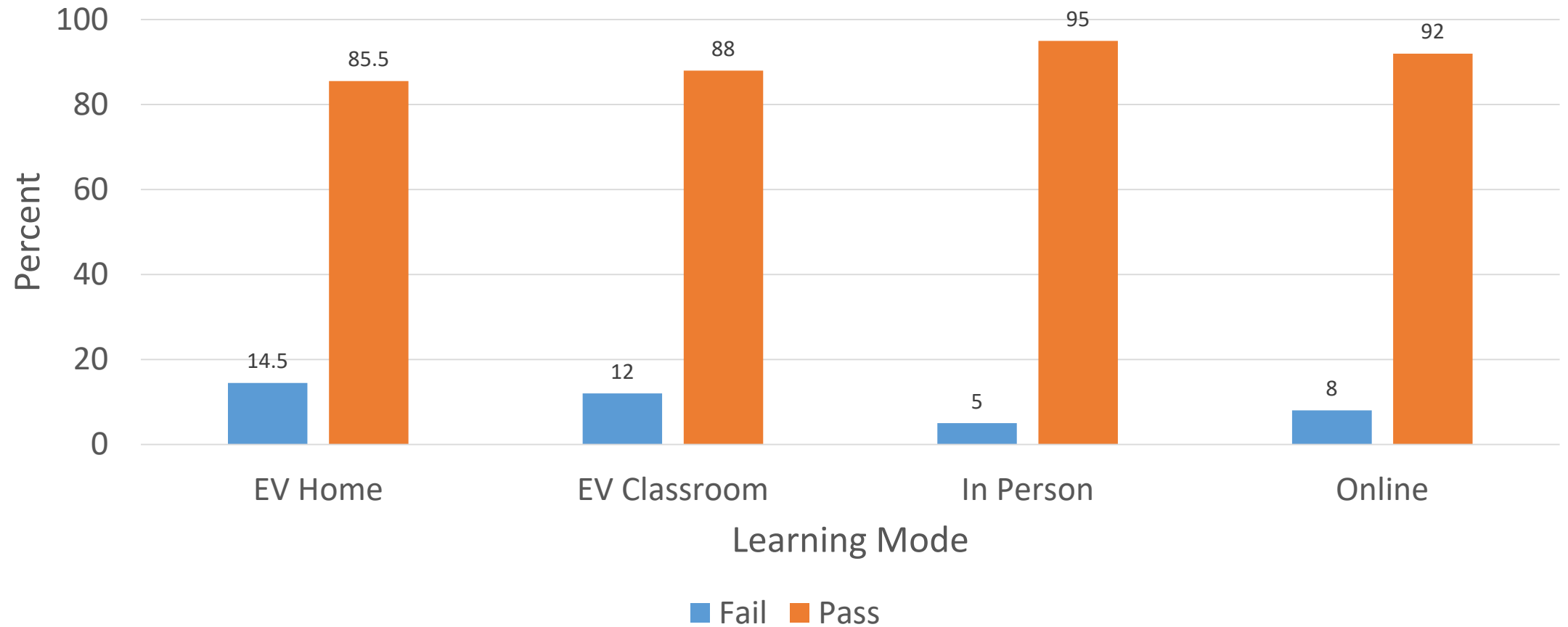


Methods

- Chi Square
 - Alpha .05
- Bonferroni Correction applied to post hoc pairwise testing
 - Alpha .00833
- Cramer's V (Effect Size)



Failure Rates (%)

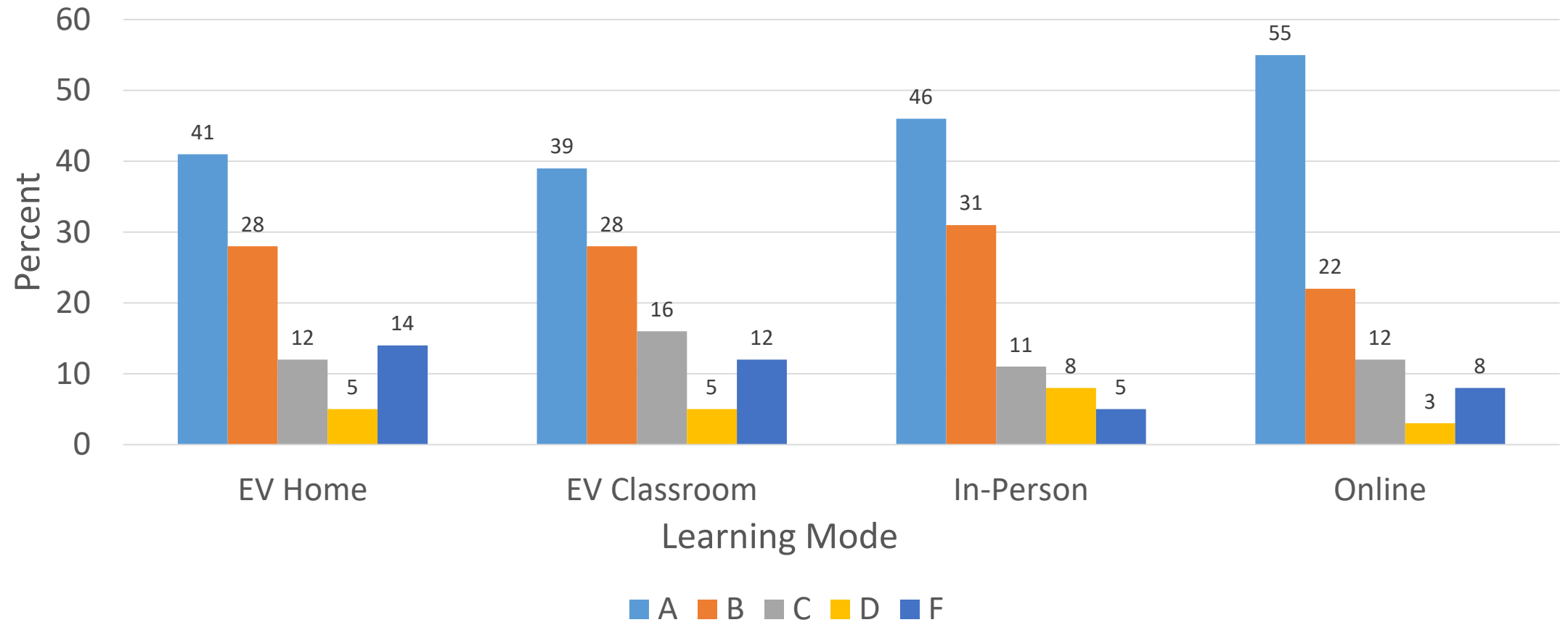


What the data told us about failure rate

- Chi Square showed significant difference ($p=.002$)
- Bonferroni Corrected Post hoc test comparisons:
 - EV Home Vs In-Person ($p=.00037$)
 - EV Home Vs Online ($p=.0032$)
- Takeaway – Student EV Home Failure rate significantly higher than for In-Person or Online Students
- Small “effect size” - other variables had impact

Significance

Grade Distribution

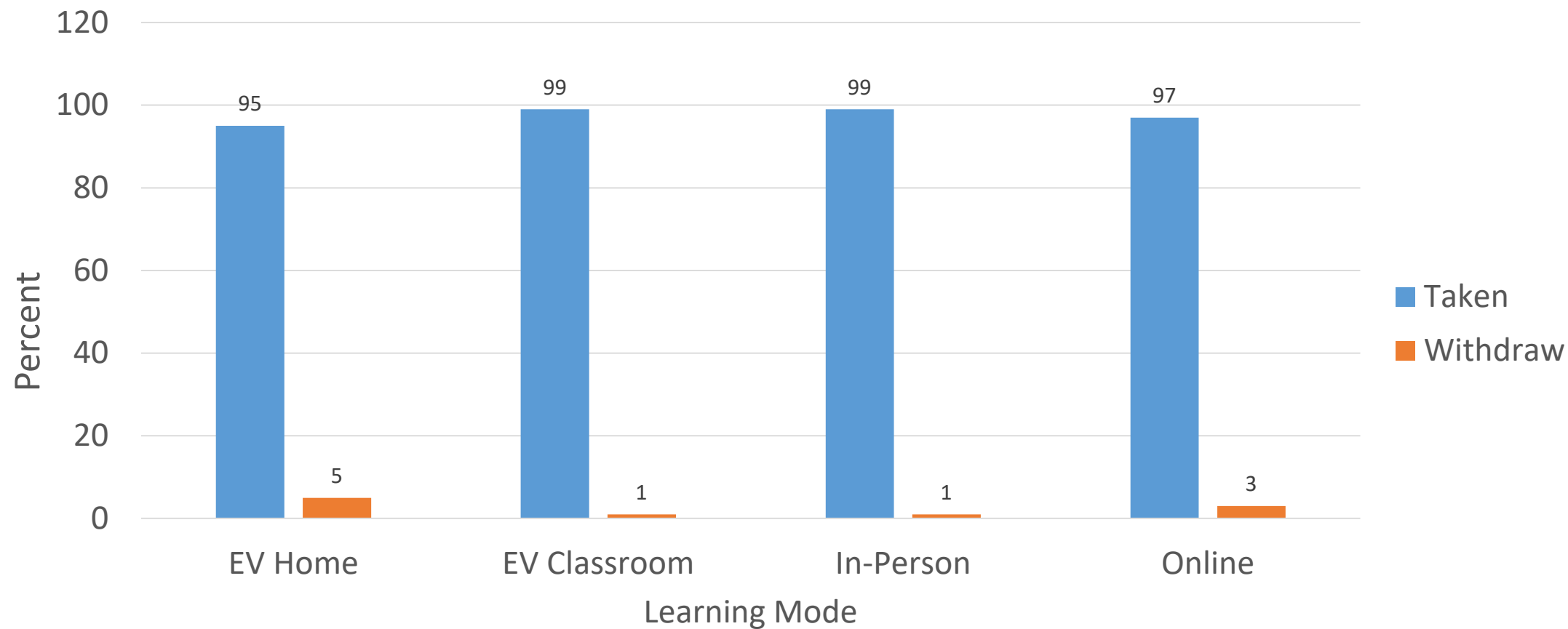


What the data told us about grade distribution

- Chi Square showed significant difference ($p < .001$)
- Bonferroni Corrected Post hoc test comparisons:
 - In-Person Vs Online ($p = .0051$)
 - EV Home Vs Online ($p = .0011$)
 - EV Classroom Vs Online ($p < .001$)
- Takeaway – Grade distributions different in 3 of 6 comparisons
- Online course and In-Person students = more As
- EV Classroom and EV Home students tended to get more Fs
- Small “effect size” - other variables had impact

Significance

Withdrawal Rates (%)



What the data told us about withdrawal rate

- Chi Square showed significant difference ($p=.011$)
- Bonferroni Corrected Post hoc test comparisons:
 - EV Home Vs EV Classroom ($p=.0025$)
- Takeaway – Withdraw rate highest for EV Home students
- Small “effect size” - other variables had impact
- Possible impact of not having peer support

Significance

Limitations

- Non traditional student population
 - Working adults – average age 34
 - Mostly military affiliated
- Did not take into account gender or age differences on performance
- Terms are 9 weeks long





- Failure Rate related to learning mode
 - EV Home had higher failure rate than In-Person or Online
- Grade distributions - different between modes
 - Online more “A”s – EV courses more “F”s
- Withdraw rate significantly different
 - EV home highest, followed by Online
 - Lowest withdraw rates for In-Person Classroom and EV Classroom
 - Peer support?

Other Factors?

- Psychology of Learning
- Learning Styles and impact of what learning mode is chosen
- Visible peer support
- Learning mode selection as influenced by age and gender
- Instructor feedback and competence with equipment



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