

Students' perception of *Formative Assessment Intervention Strategy (FAIS)* as an instructional tool in *Competency-Based Medical Education*. a proof-of-concept study

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The researchers/ authors declare No Conflicts of Interest

Overview



- Introduction
- Aims
- **Methods (including *Context, Description of the Intervention, Research Design, and Data Collection and Analysis*)**
- **Research progress**
- **Results**
- Discussion (findings of the study, thus far)
- Upcoming steps

Background



A major challenge in implementing Competency-Based Medical Education (CBME) is designing the assessment

Two fundamental and yet essentially different rationales are “*Assessment-of-Learning*” and “*Assessment-for-Learning*”

“*Assessment-of-Learning*” or “*Summative Assessment*” evaluates a student’s learning progress and provides concrete grades or other objective measures

“*Assessment-for-learning*” or “*Formative Assessment*” are used to foster the learning process. It focuses on providing the student with feedback on their performance to improve their skills, knowledge, and learning behavior

- Five characteristics are essential to secure a sufficient level of student involvement in Formative Assessment:
 1. congruence
 2. authenticity
 3. consultation
 4. transparency
 5. accommodation.

Aims



1. To understand students' perception regarding a Formative Assessment intervention implemented in the biochemistry course at Mohammed Bin Rashid University of Medicine and Health Sciences (MBRU)
2. To evaluate the impact of the Formative Assessment intervention on the overall students' performance in the summative assessment
3. To develop a holistic perspective of the efficacy of the Formative Assessment intervention

Methods- Context of the Study



MBRU Values



RESPECT

For opinions and differences



INTEGRITY

Fostering honesty, openness, transparency and accountability



CONNECTIVITY

Building partnerships with local, regional and international organizations



GIVING

Creating a positive and happy relationship with our communities



EXCELLENCE

Embracing quality, motivation and creativity in our communications and services

A global hub for innovative and
integrated healthcare education and
research at the service of humanity

MBRU Mission



To advance health in the UAE and the region, through an innovative and integrated academic health system, that is nationally responsive and globally connected, serving individuals and communities

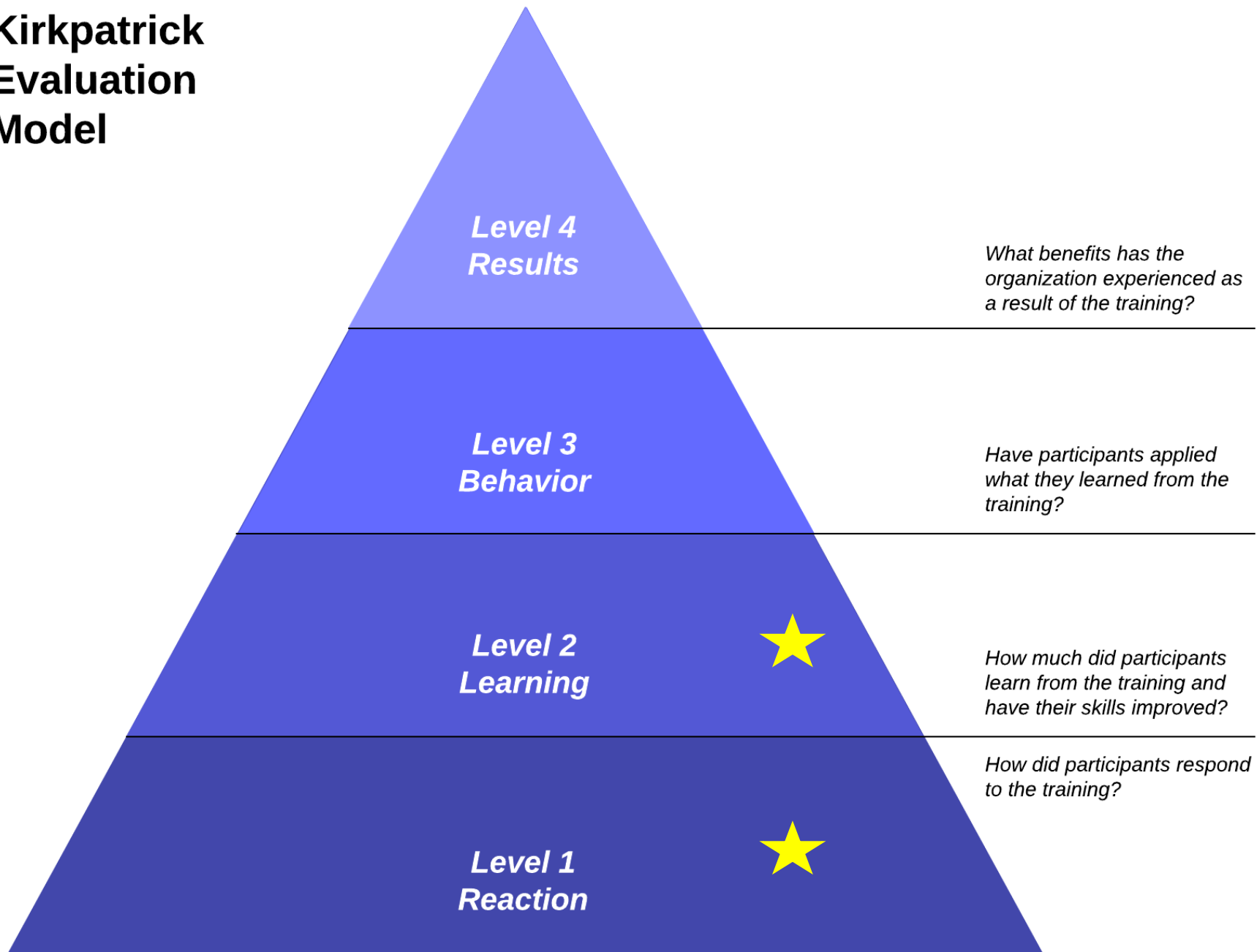
Methods- Description of the Intervention



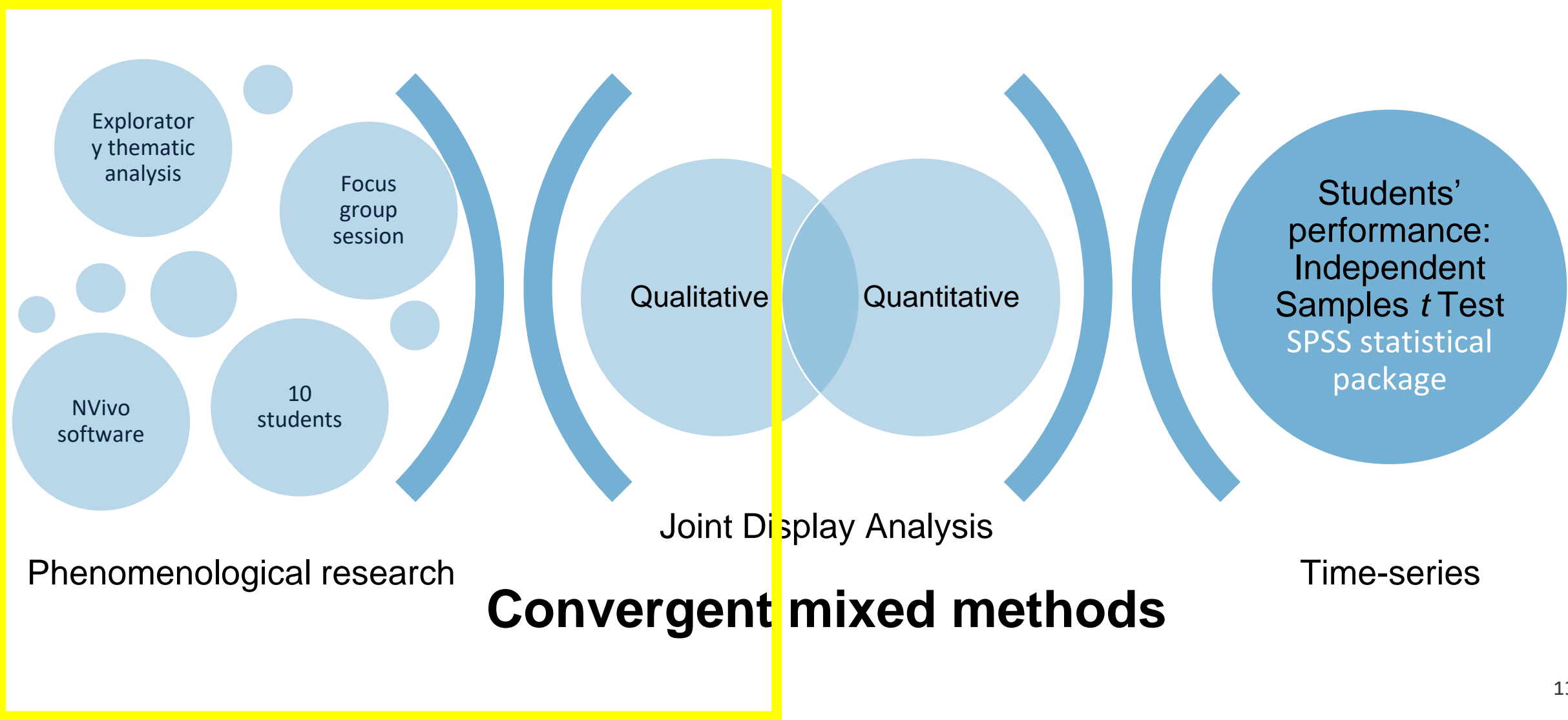
- The intervention was implemented during the Biochemistry course given to first year students in their first semester (Phase 1)
- One of the intended outcomes of this course is to develop explicit associations between basic research, medical understanding, and the perspective of patients
- When developing the Formative Assessment intervention each area of knowledge, skills, and attitudes was considered
- Assessment formats were developed based on the understanding of **Miller's learning pyramid**



Kirkpatrick Evaluation Model



Methods- Research Design



Results- Qualitative Component



Description of the Formative Assessment

- Frequency
- Content and structure

Students' Reaction

- Positive
- Negative

Direct Effects

- Acquiring core/ subject matter knowledge and skills
- Enhancing exam-taking skills
- Conducting self-assessment
- Clarifying doubts/ misunderstanding
- Modifying learning styles/ Self-development
- Diffusing exam stress
- Enhancing attitudes

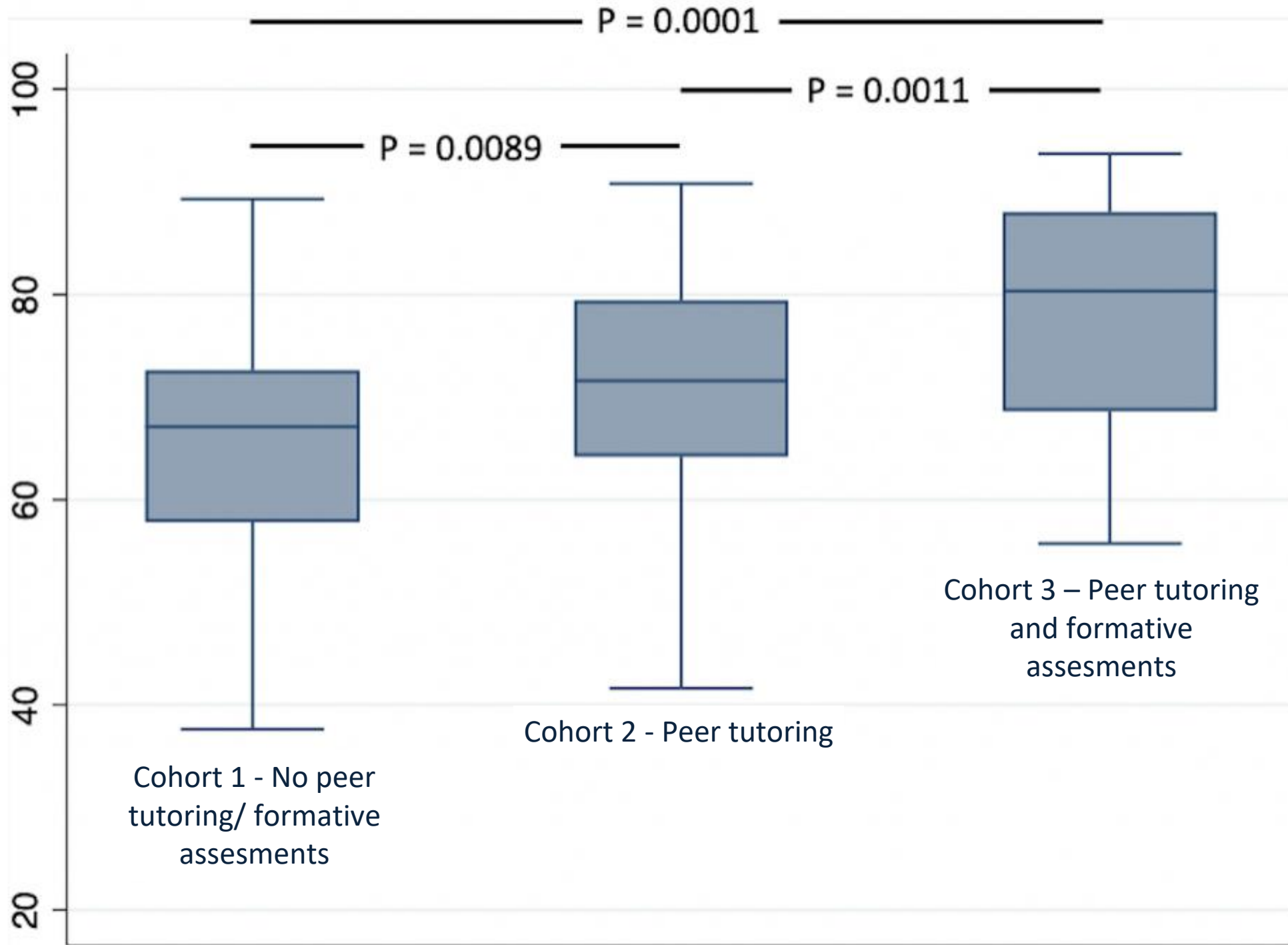
Indirect Effects

- Effects on instructors
- Effects on dynamics of the students with the instructors

Opportunities for Improvement of the Formative Assessment

- Respective course
- Other courses
- Students

Summative score



Discussion (findings, thus far)



- The characteristics of the intervention and how it affected the entailed learning experiences were apparent to the students
- The students appreciated the intervention and its effects on the learning and teaching
- Most students experienced positive thoughts and emotions upon reflecting on the experience
- Few students reflected upon (subtle) negative reactions (associated with perceived challenges and potential disadvantages)
- The students recognized the intervention's strengths and identified opportunities for improvement
- Such an intervention needs to be designed in a way to leverage the strengths and opportunities for improvement identified in this study, while circumventing the challenges and potential disadvantages mentioned by the students
- We expect the study to show that the formative assessment intervention is associated with better performance in summative assessments

Limitations and Future Considerations



1. Mixed methods approach allow for thoroughness yet the generalizability is limited (**small sample size**)
2. **Gender distribution** (will be analyzed in the quantitative component of the study)
3. **Learning styles' distribution** (suggestion for a future study to investigate the correlation between learning styles and effect/ impact of intervention on students)
4. **Learning resilience distribution/** particularly relevant to the COVID-19 times that we are living (suggestion for a future study to investigate the correlation between learning styles and effect/ impact of intervention on students)



Thank you!