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A systematic review of HyFlex course designs in higher education

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Introduction

- What is HyFlex Teaching?
  - a flexible instructional model blending face-to-face and online learning.
  - allows students to choose their mode of attendance: in-person, synchronous online, or asynchronous online.
- Core Principles (Beatty, 2019):
  - learner choice – students decide how they participate.
  - equivalency – learning experiences are comparable across all modes.
  - reusability – course materials are accessible across different formats.
  - accessibility – ensuring equal opportunities for all learners.

Aim

- to systematically review empirical research on HyFlex course designs and to identify challenges/ opportunities experienced and strategies used. More specifically:
  - RQ1: what are the key characteristics of the extant research on HyFlex designs?
  - RQ2: what challenges and opportunities do higher education teachers experience in implementing HyFlex courses?
  - RQ3: what strategies do they use in designing HyFlex courses?

Method

Literature Search

- electronic database search in November 2024
  - SCOPUS, ERIC, and Web of Science

- search terms

  TITLE-ABS-KEY(hyflex OR "hybrid flexible")

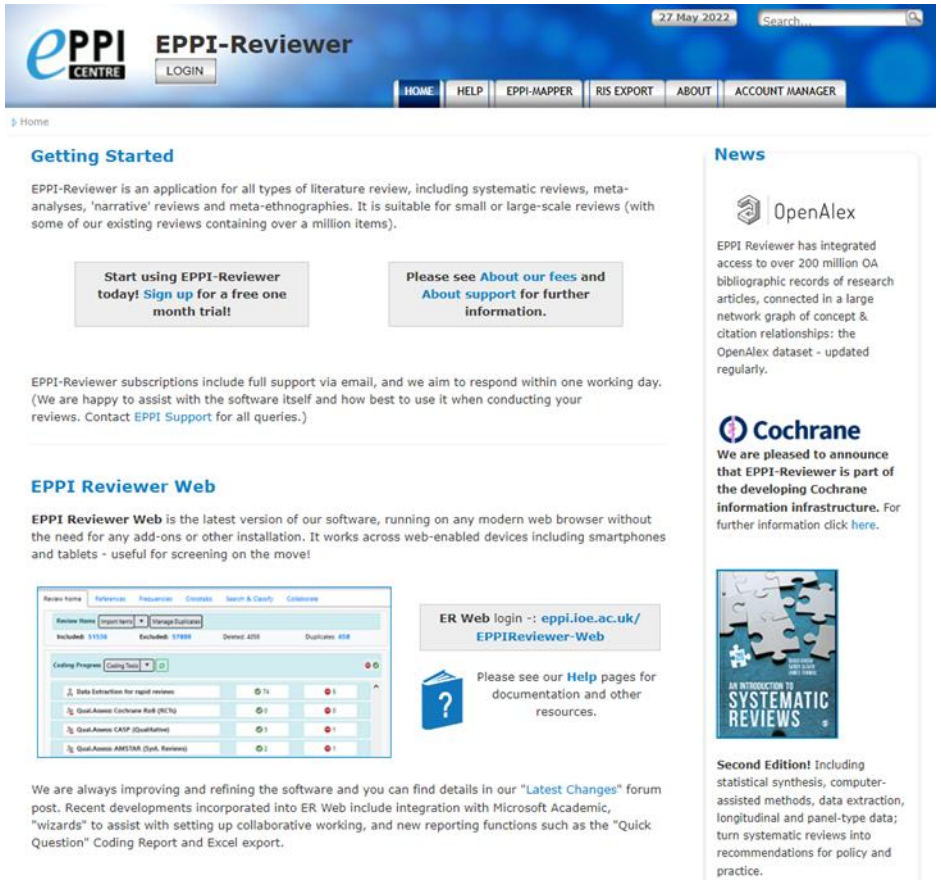
  Limited to: journal articles, in English

Inclusion Criteria

- involving a hyflex design course (topic)
- with higher education students (target group)
- empirical primary study (study type)
  - no design limitation such as randomized control trials
- peer-reviewed article (publication type)
- in English (language)

Screening

- two screeners
- two-stage double independent screening
  - in EPPI-reviewer (The Evidence for Policy and Practice Information and Co-ordinating Centre)



Data Extraction

- study details (e.g., authors, publication year, country, study design)
- sample characteristics (e.g., number of participants, mean age, gender composition)
- study results (e.g., main outcomes/results, implications)
- *study quality – MMAT tool (in progress)*

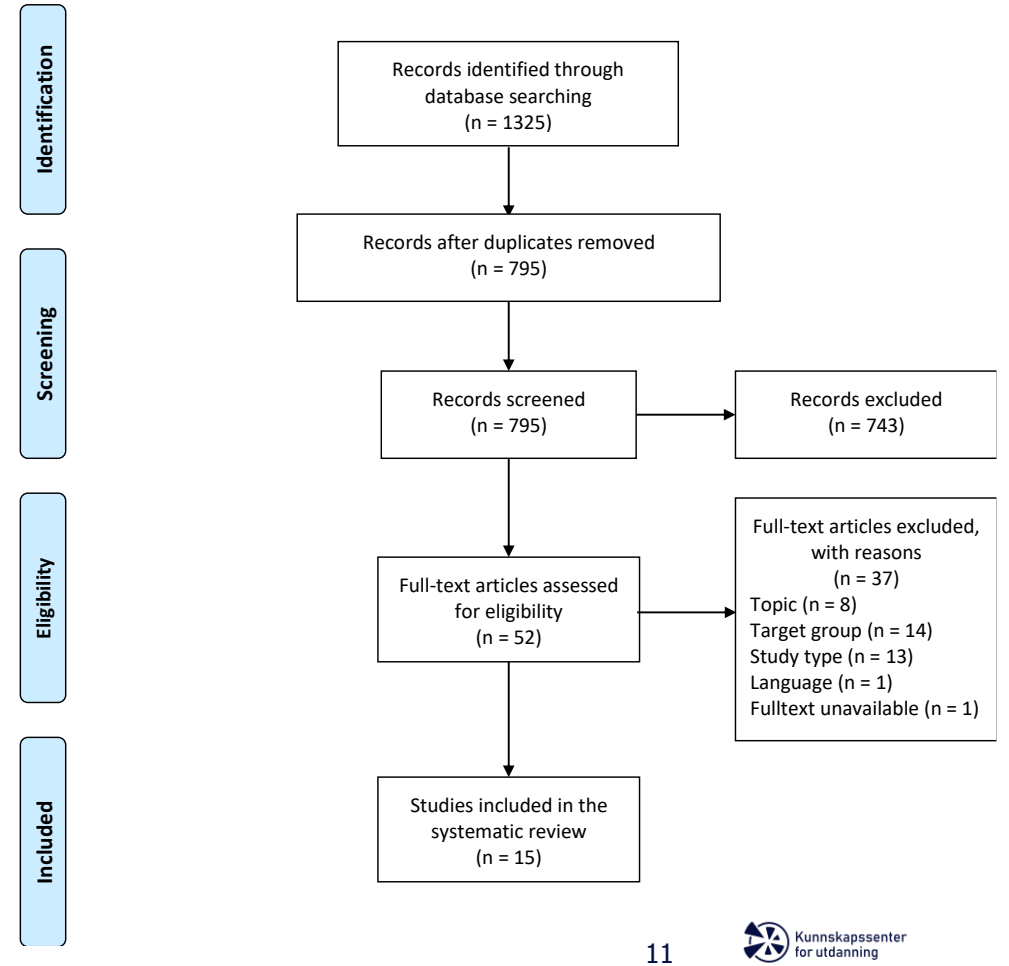
Data Synthesis (Thematic)

- two synthesists (using AI for validation)
  - descriptive analyses of all included studies
  - thematic synthesis
    - thematic codes after data extraction
      - challenges and opportunities experienced
      - main strategies used

(Preliminary) Results

Identification of Eligible Studies

- Initial search: k = 1325
  - After removal of duplicates: k = 795
- Title & abstract screening (k=795)
  - k=52
  - 89.6% interrater agreement
- Full text screening (k=52)
  - k=15
  - 82.7% interrater agreement



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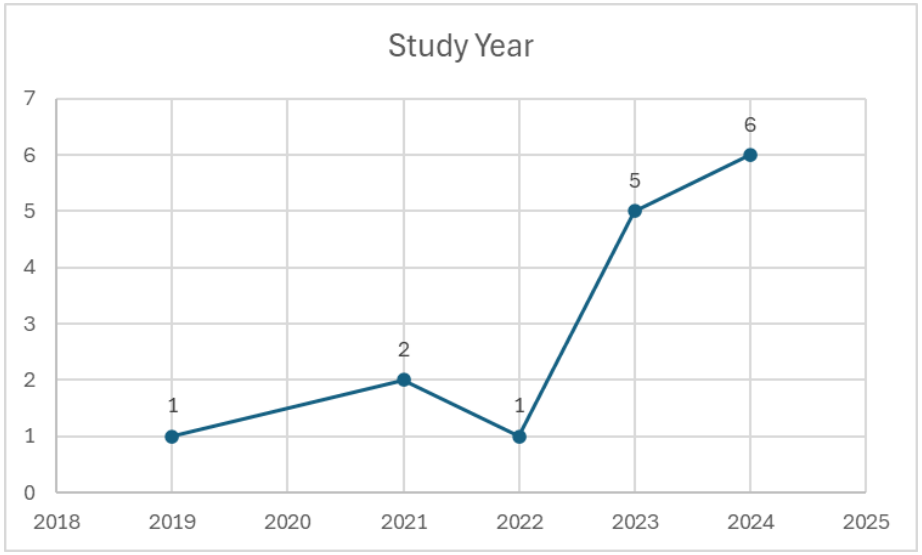
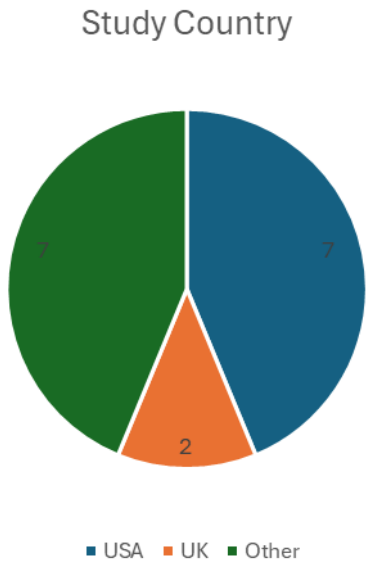
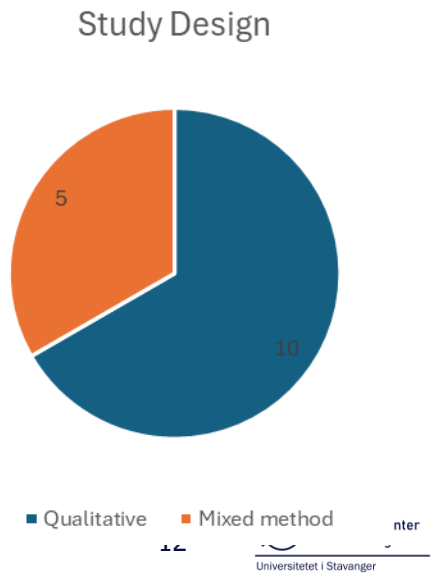
RQ1: Characteristics of the Studies

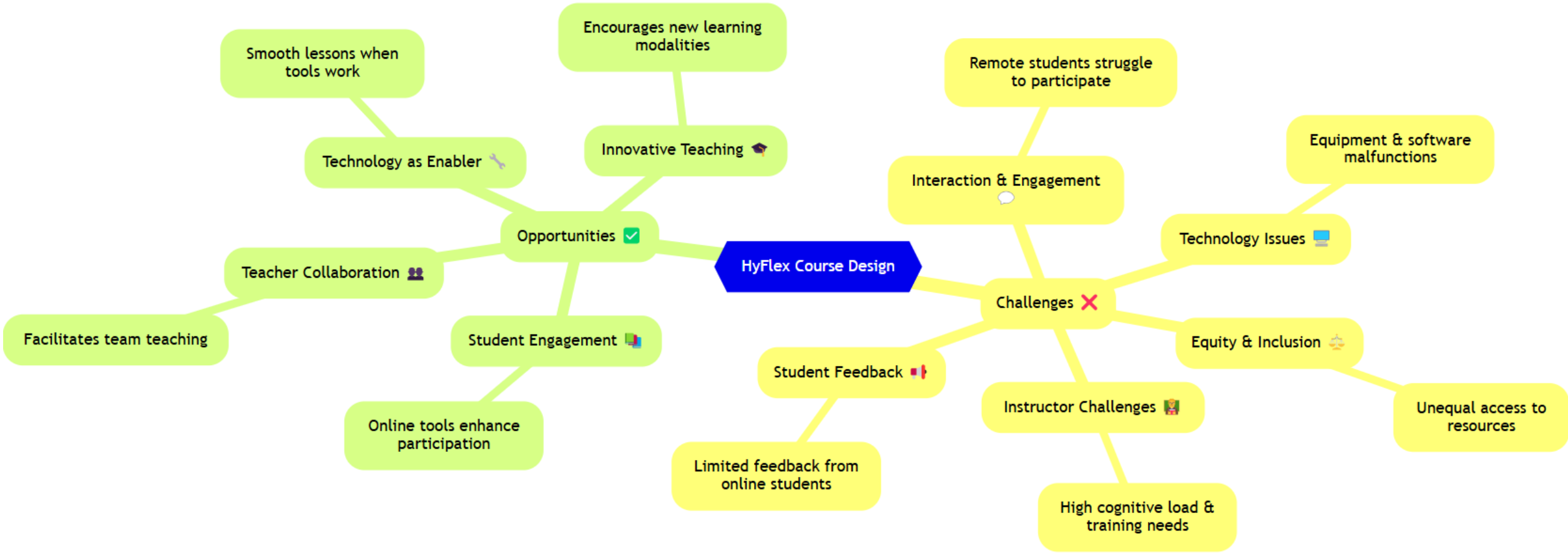
- 40% in 2024 (2019-2024)
- 46.7% from USA
- 66.7% qualitative, 33.3% mixed-methods
- Interviews, surveys, and observations as main data collection methods







RQ2: Challenges & Opportunities



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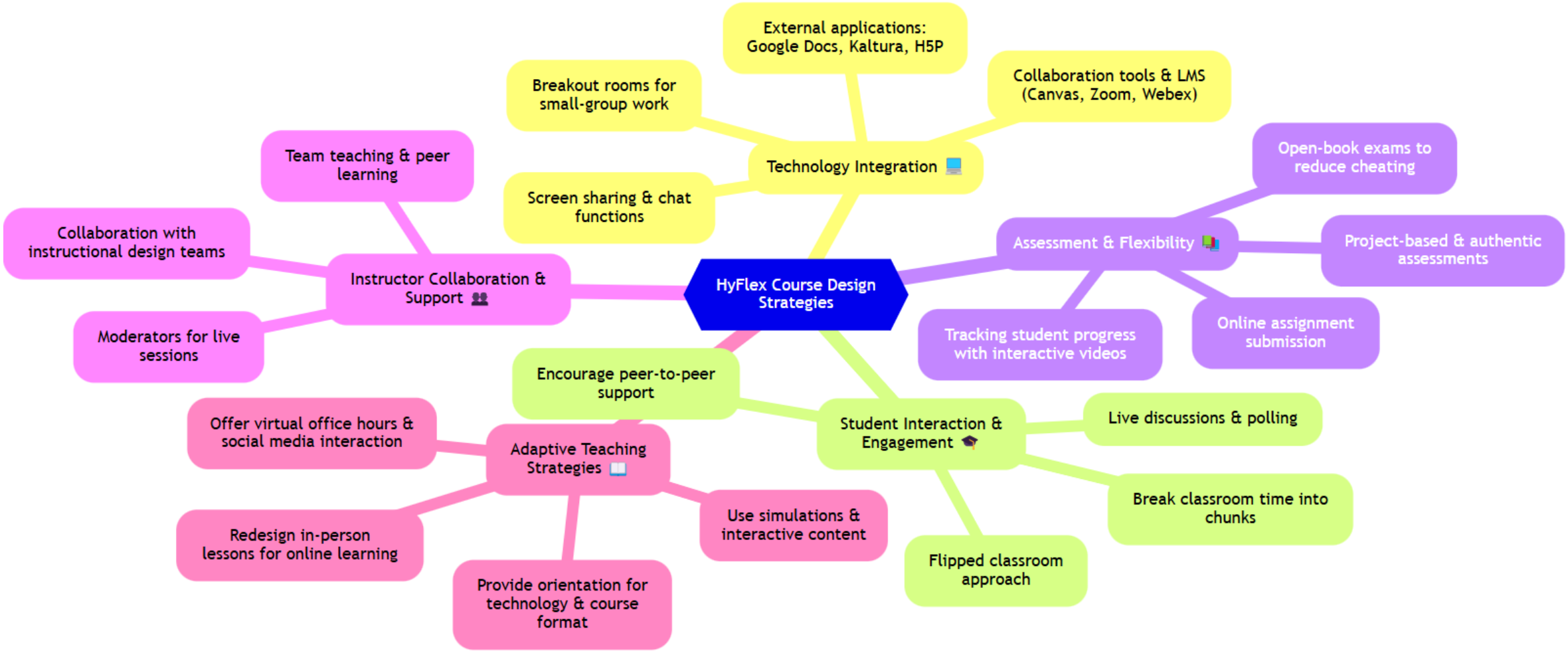
RQ3: Key Strategies



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Recommendations

- Faculty training & support
  - professional development in hyflex pedagogy and technology.
- Improved course design strategies
  - clear learning objectives across all modalities.
- Enhanced technological infrastructure
  - investment in digital tools to support engagement and assessment.
- Further research on hyflex teaching
  - examining hyflex in diverse educational contexts.

Conclusions

- HyFlex teaching provides increased accessibility, engagement, and flexibility.
- Successful implementation requires careful planning, professional development, and robust technology.
  - Technology is crucial for HyFlex, but also both as a challenge and opportunity
- More research is needed to refine strategies and support diverse student needs.
- AI presents new possibilities for enhancing HyFlex course design.

Any questions?

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