

ASSESSING CURRICULUM ALIGNMENT WITH VISION & CHANGE: IMPACTS ON STUDENT OUTCOMES

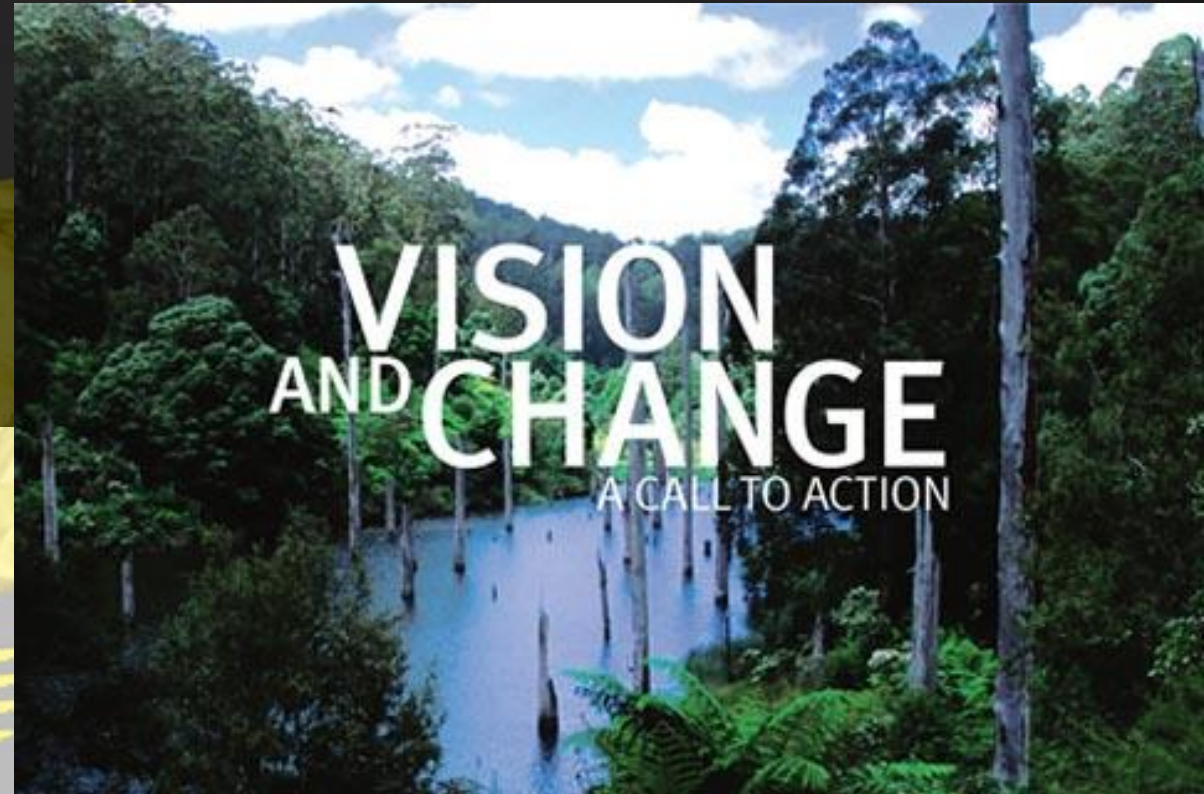
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RESEARCH QUESTIONS

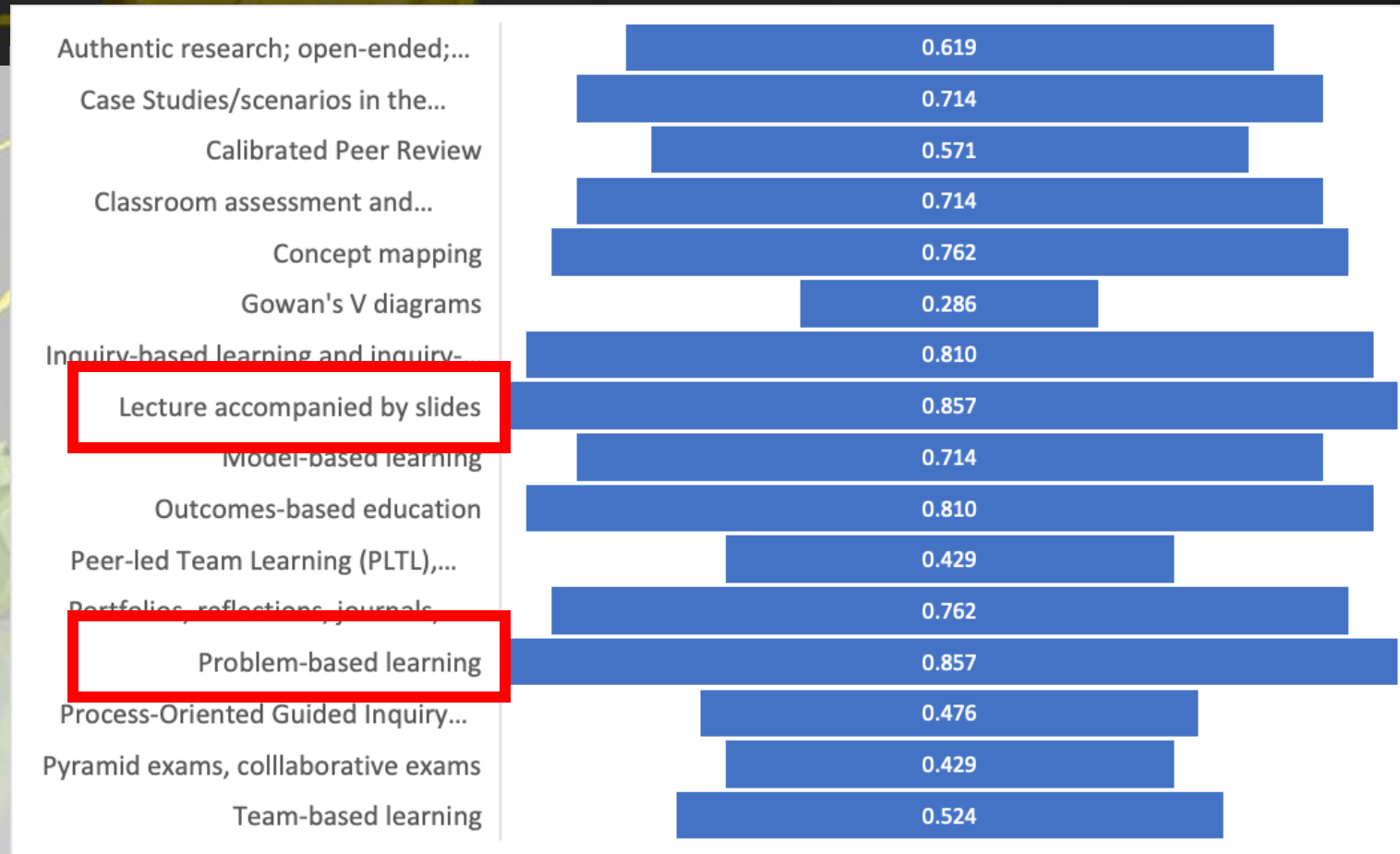
- To what degree is the general biology degree program aligned with standards as established by Vision & Change?
- Concepts and competencies
- Instructional methods
- Are there interactions between concept & competencies, instructional methods, and student learning outcomes?



Core concepts	Core competencies
Evolution	Apply the process of science
Structure and function	Use quantitative reasoning
Information	Employ modeling and simulation
Energy	Experience interdisciplinary science
Systems	Communicate with other disciplines
	Integrate science and society

METHODS & FINDINGS

- Faculty surveys to gauge concept and competency coverage, and instructional methods used
 - Not covered/used
 - Introduced/occasional
 - Reinforced/moderate
 - Mastered/frequent
- Pass rate in 10 courses (5 100-200 level; 5 300-400 level)



IMPLICATIONS

- Upper-level students can manage heavy content and competency loads and a variety of instructional methods
- Lower-level students perform better when
 - Smaller quantity of concepts and competencies covered
 - Moderate number of instructional methods used

Course Group	Pass Rate *	Concepts Covered	Competencies Covered *	Instructional Methods
Lower-level	69%	37.6	10.2	7.6 ?
Upper-level	89%	54.8	37.2	10.6