Quality Matters | #QualityinAction

5 Considerations in Equitable Design

Tanya Joosten, Ph.D., @tjoosten, in/tjoosten

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How We Roll

Using data to solve problems of pratice

Questions

-Propose questions in the field
-Chat or tweet using #QualityinAction
-Share your own resources, blog pots, links, articles, etc.

Data

-Provide data to answer these questions
-Share quantitative, qualitative, mixed-methods, meta-analyses, narratives, public communication, anecdotes, and more
-Dash in some theory
-Share your data

Claim

-Determine what we *do* know
-Leave here knowing 5 things about equitable design

Links

1. DetaResearch.org
2. DetaResearch.org/publications
3. DetaResearch.org/research-support/
4. DetaResearch.org/news/
5. ProfessorJoosten.BlogSpot.com

What mode is better, f2f or online? is more equitable?

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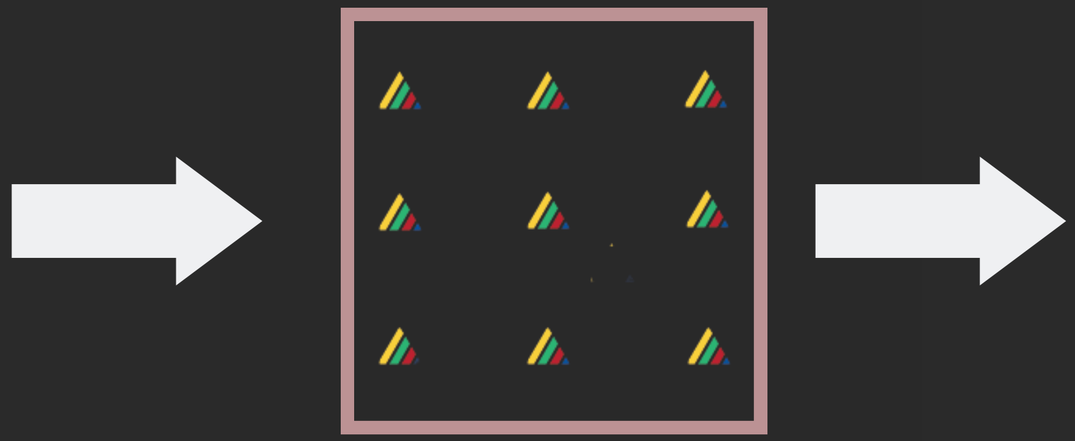
Mode comparison research has been conducted for over 50 years. Mode comparisons alone are comparing inputs and useless.

Traditional, face-to-face or onsite learning is the gold standard.

Say what?

While many people are comfortable with f2f, let's discuss the research. Research indicated that the course modes, discipline, and level could influence outcomes.

Mode comparison research is harmful to the creation and advancement of our knowledge of student learning.



THE AMERICAN JOURNAL OF DISTANCE EDUCATION, *16*(2), 83–97

Comparing Student Satisfaction With Distance Education to Traditional Classrooms in Higher Education: A Meta-Analysis

Mike Allen
Department of Communication
University of Wisconsin–Milwaukee

John Bourhis
Department of Communication and Mass Media
Southwest Missouri State University

Nancy Burrell and Edward Mabry
Department of Communication
University of Wisconsin–Milwaukee

Meta-analysis provides a method of quantitatively summarizing and comparing empirical literature to reduce Type I and Type II error. The meta-analysis described here indicates a slight student preference for a traditional educational format over a distance education format (average $r = .031$, after the deletion of outliers), and little difference in satisfaction levels. A comparison of distance education methods that include direct interactive links with those that do not include interactive links demonstrates no difference in satisfaction levels. However, student satisfaction levels diminish as additional information is added to the available channel of instruction (e.g., written to audio to video). The findings support those of researchers arguing that distance education does not diminish the level of student satisfaction when compared to traditional face-to-face methods of instruction.

2002 | Distance education does not diminish the level of student satisfaction.

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2004 | DE course students outperformed traditional students on exams and course grades.

Evaluating the Effectiveness of Distance Learning: A Comparison Using Meta-Analysis

By Mike Allen, Edward Mabry, Michelle Mattrey, John Bourhis, Scott Titsworth, and Nancy Burrell

This article uses meta-analysis to summarize the quantitative literature comparing the performance of students in distance education versus traditional classes. The average effect (average r = .048, k = 39, N = 71,731) demonstrates that distance education course students slightly outperformed traditional students on exams and course grades. The average effect was heterogeneous, and the examination of several moderating features (presence or absence of simultaneous interaction, type of channel used in distance education, and course substance) failed to produce a homogeneous solution. The results demonstrate, however, no clear decline in educational effectiveness when using distance education technology.

The profound impact that technological innovations are having in all facets of education focuses attention on assessing relationships between changing modes and practices of instruction and their outcomes. The emergence of new technologies does not change the goals of education. The new technologies change the process of communication within an educational setting to accomplish those goals. Research by communication scholars is needed to examine how changes in means of communicating content impacts the goals of those engaged in a communication activity.

Understanding potential impacts of technologically driven differences between traditional classrooms and distance learning contexts is clearly appropriate (Althaus, 1997; Boettcher, 1996; Greene & Meek, 1998; McHenry & Bozik, 1995; Verduin &

Mike Allen (PhD, Michigan State University) is a professor and chair of the Department of Communication at the University of Wisconsin, Milwaukee, where Edward Mabry (PhD, Bowling Green State University) is an associate professor and Nancy Burrell (PhD, Michigan State University) is a professor. Michelle Mattrey (MA, Cornell University) is a doctoral student in the Department of Communication, Pennsylvania State University. John Bourhis (PhD, University of Minnesota) is a professor in the Department of Communication and director of online education at Southwest Missouri State University. Scott Titsworth (PhD, University of Nebraska) is an assistant professor at Ohio University. Correspondence should be addressed to the first author at Dept. of Communication, University of Wisconsin, Milwaukee, WI 53201; mikealle@uwm.edu.

Review of Educational Research
Fall 2004, Vol. 74, No. 3, pp. 379–439

How Does Distance Education Compare With Classroom Instruction? A Meta-Analysis of the Empirical Literature

Robert M. Bernard and Philip C. Abrami
Concordia University
Yiping Lou
Louisiana State University
Evgueni Borokhovski, Anne Wade, Lori Wozney, Peter Andrew Wallet, and Manon Fiset
Concordia University
Binru Huang
Louisiana State University

A meta-analysis of the comparative distance education (DE) literature between 1985 and 2002 was conducted. In total, 232 studies containing 688 independent achievement, attitude, and retention outcomes were analyzed. Overall results indicated effect sizes of essentially zero on all three measures and wide variability. This suggests that many applications of DE outperform their classroom counterparts and that many perform more poorly. Dividing achievement outcomes into synchronous and asynchronous forms of DE produced a somewhat different impression. In general, mean achievement effect sizes for synchronous applications favored classroom instruction, while effect sizes for asynchronous applications favored DE. However, significant heterogeneity remained in each subset.

Keywords: classroom instruction, comparative studies, distance education, meta-analysis, research methodology.

In the same way that transitions between technological epochs often breed transitional names that are shed as the new technology becomes established (e.g., the automobile was called the "horseless carriage" and the railroad train was called an "iron horse"), research in new applications of technology in education has initially focused on comparisons with more established instructional applications, such as classroom instruction. In the 1950s and 1960s, the emergence of television as a new medium of instruction initiated a flurry of research that compared it with "traditional" classroom instruction. Similarly, various forms of computer-based instruction (1970s and 1980s), multimedia (1980s and 1990s), teleconferencing (1990s), and distance education (DE) (spanning all of these decades) have been investigated from a comparative perspective in an attempt to judge their relative effectiveness. It is arguably the case that these comparisons are necessary for policymakers, designers, researchers, and adopters to be certain of the relative

2004 | Applications of DE outperformed their classroom counterparts and many performed more poorly.

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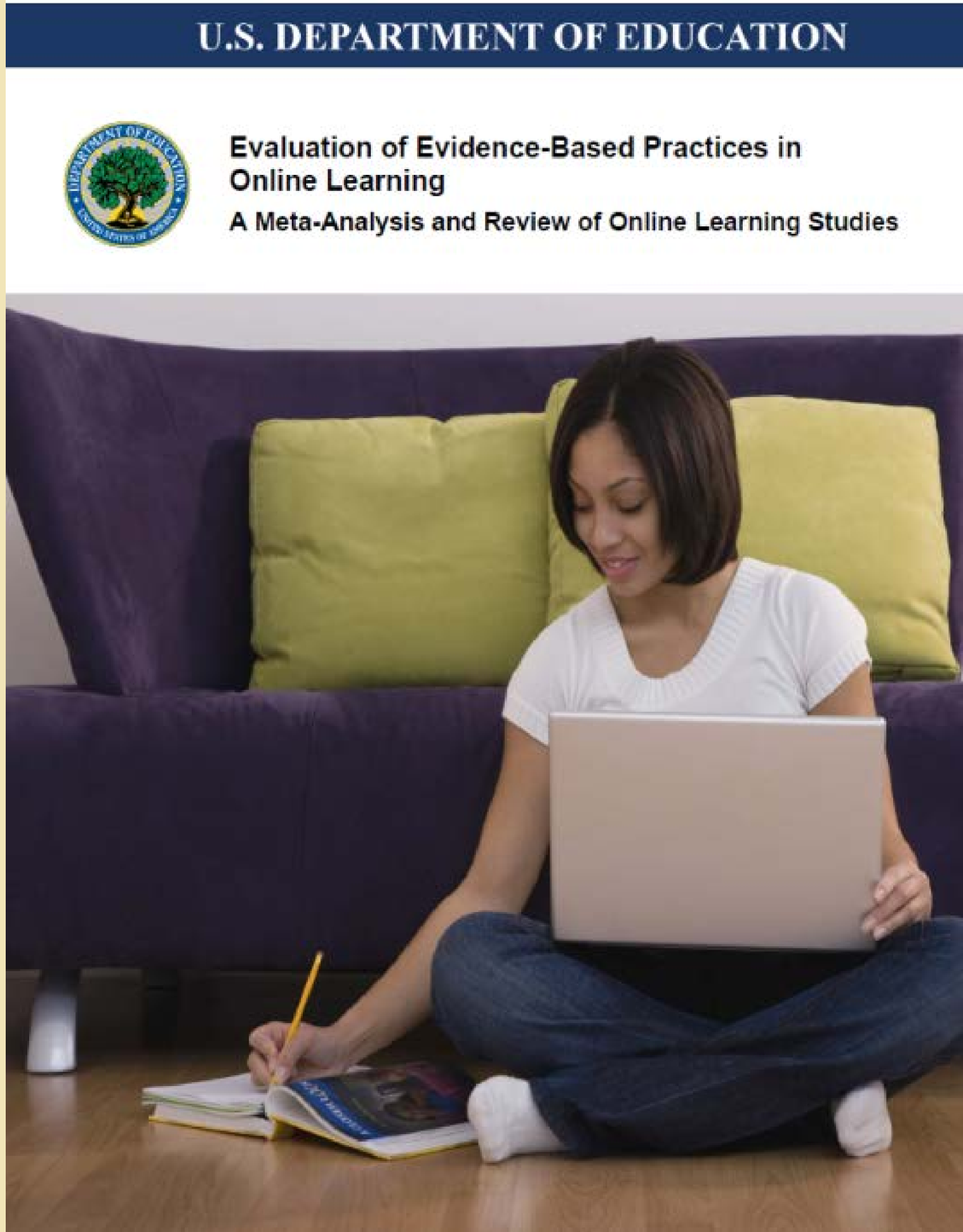
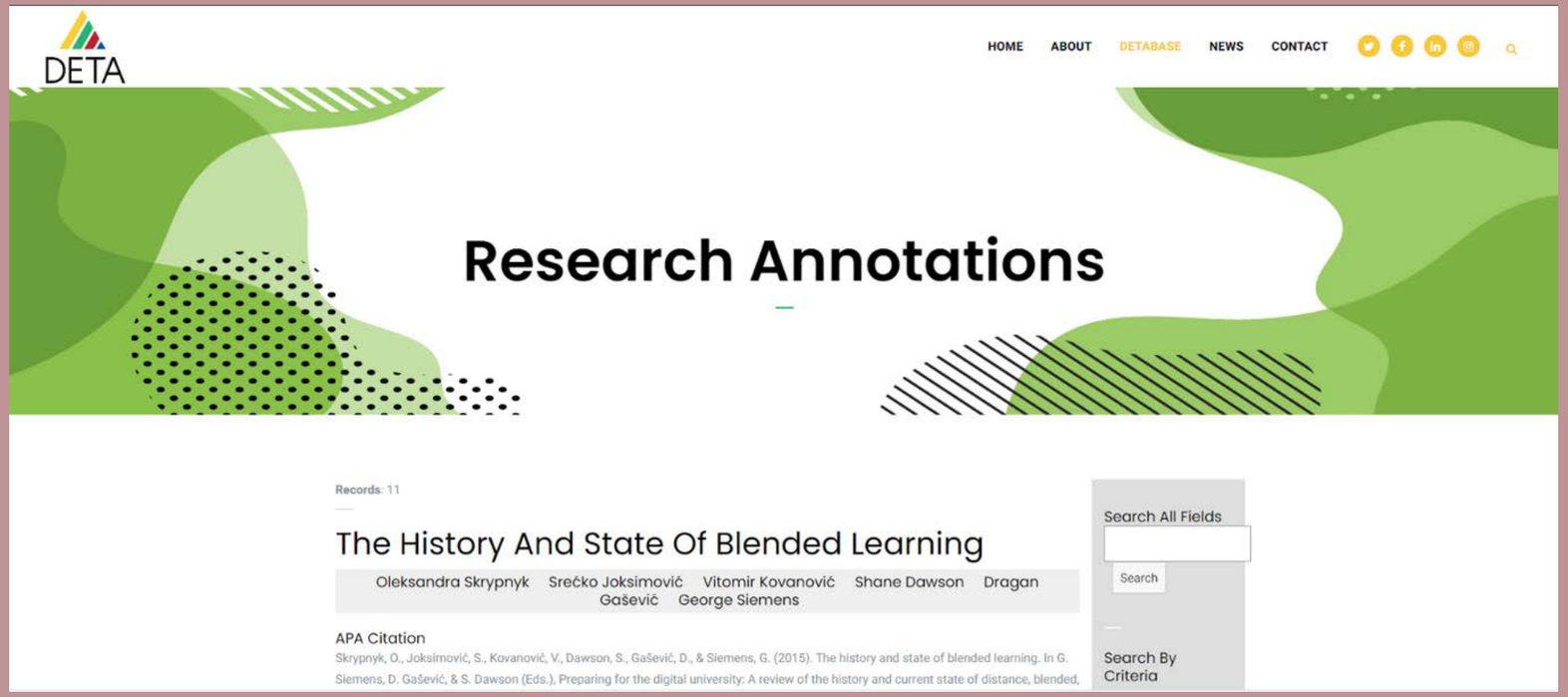
2010 | Students in online conditions performed better and outcomes exceeded those of students receiving face-to-face.

Blended or hybrid instruction combining online and face-to-face elements had a larger advantage to purely face-to-face instruction than did purely online instruction.





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Finding meta-analyses

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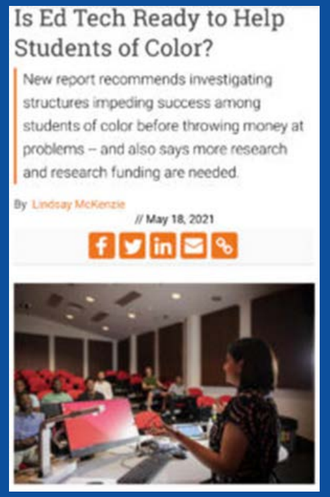
No significant difference


Is Ed Tech Ready to Help Students of Color?

New report recommends investigating structures impeding success among students of color before throwing money at problems -- and also says more research and research funding are needed.

By Lindsay McKenzie

// May 18, 2021

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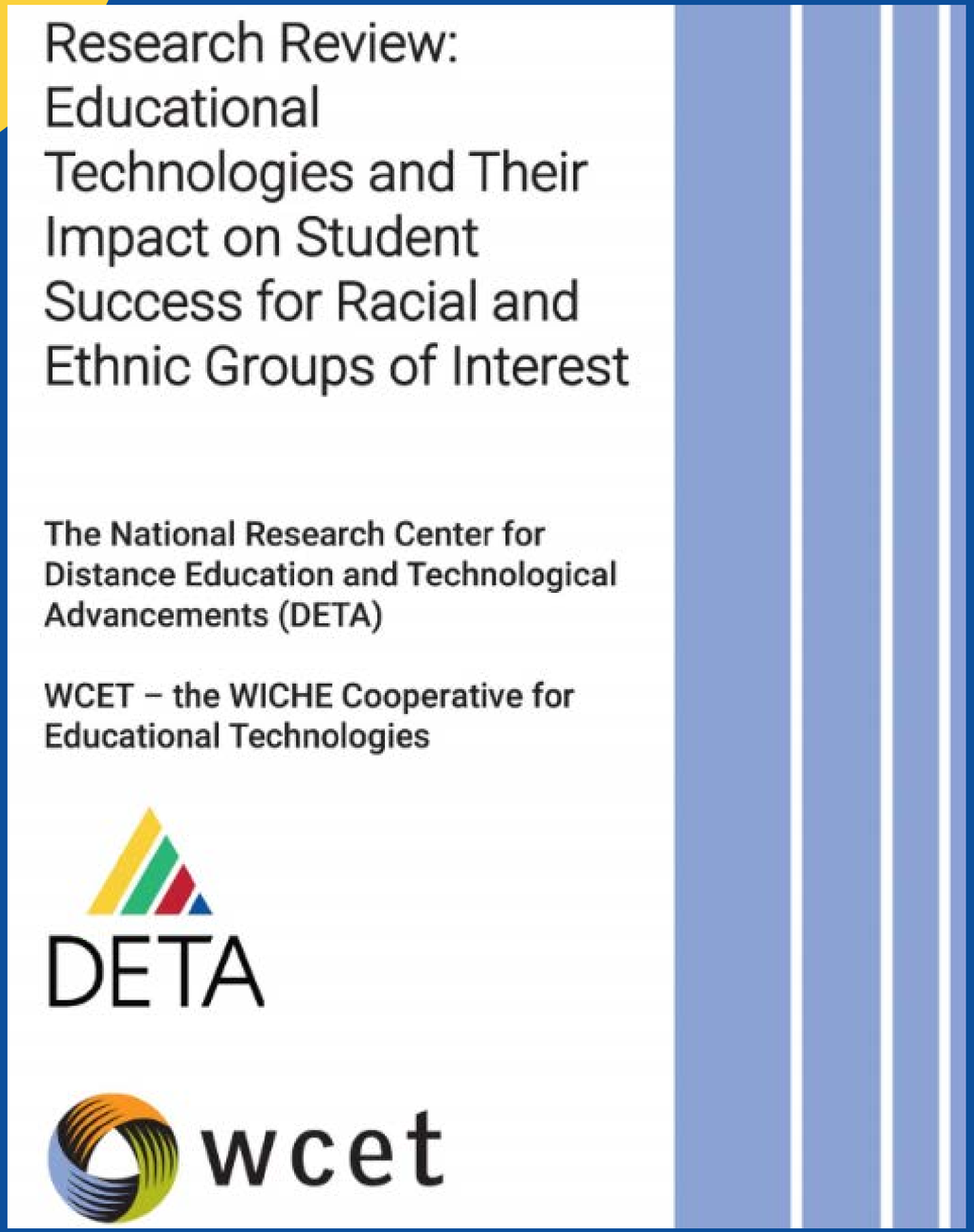
Research review

Students of color and mode


Research Review: Educational Technologies and Their Impact on Student Success for Racial and Ethnic Groups of Interest

The National Research Center for Distance Education and Technological Advancements (DETA)

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Under certain circumstances, students were more likely to succeed in blended and online courses than in their face-to-face (face-to-face) counterparts

Wladis, Conway, & Hachey, 2017
Gavassa, Benabentos, Kravec, Collins, & Eddy, 2019

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UWS DLE ux
Mode preference

JULY 2021

Report

University of Wisconsin System
Digital Learning Environment
Study

BY

Tanya Joosten, Ph.D., DETA

TO

Renee Pfeifer-Luckett
Director, Learning Technology Development
University of Wisconsin System Administration

DETA Distance Research Center for Distance Education and Technological Advancements

UNIVERSITY OF WISCONSIN SYSTEM

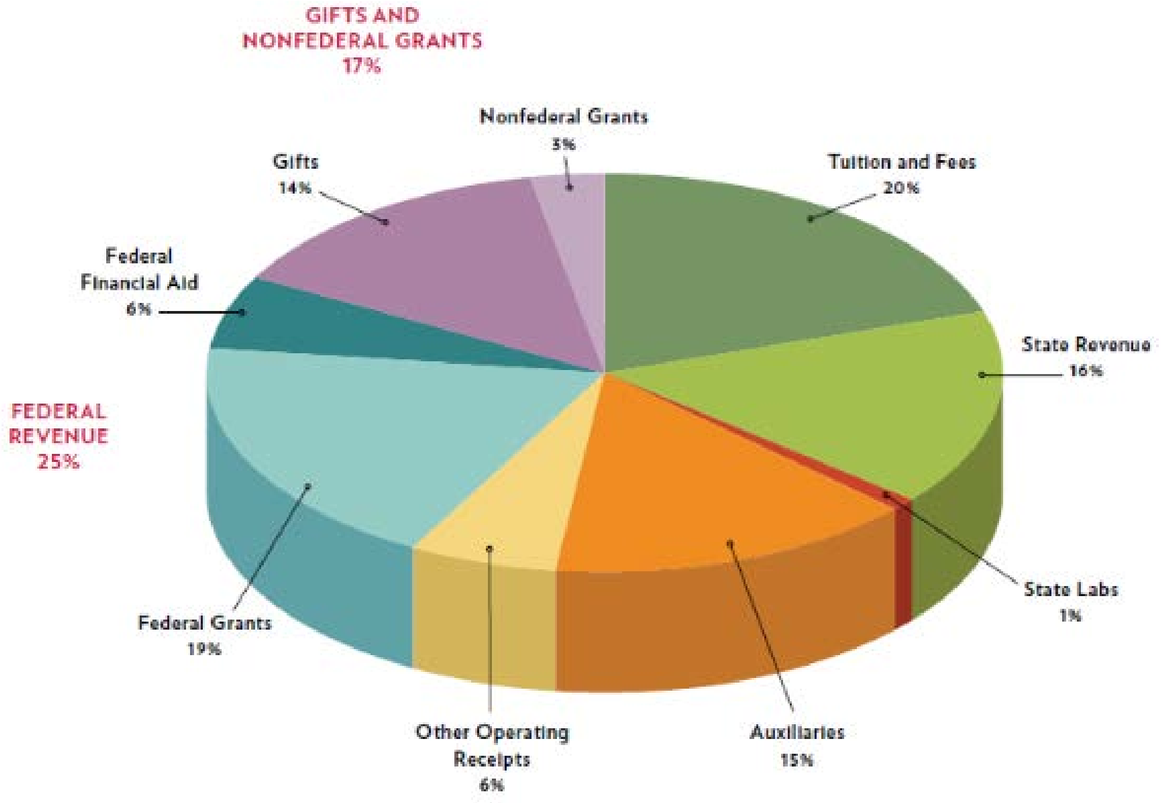
Students reported that after the initial phase of COVID-19 vaccinations their preference for course enrollment as **all on-campus (n = 917; 29%)**, mostly on-campus (n = 653; 21%), blended (n = 529; 17%), mostly online (n = 189; 6%), and all online (n = 850; 27%).

Conisderation One

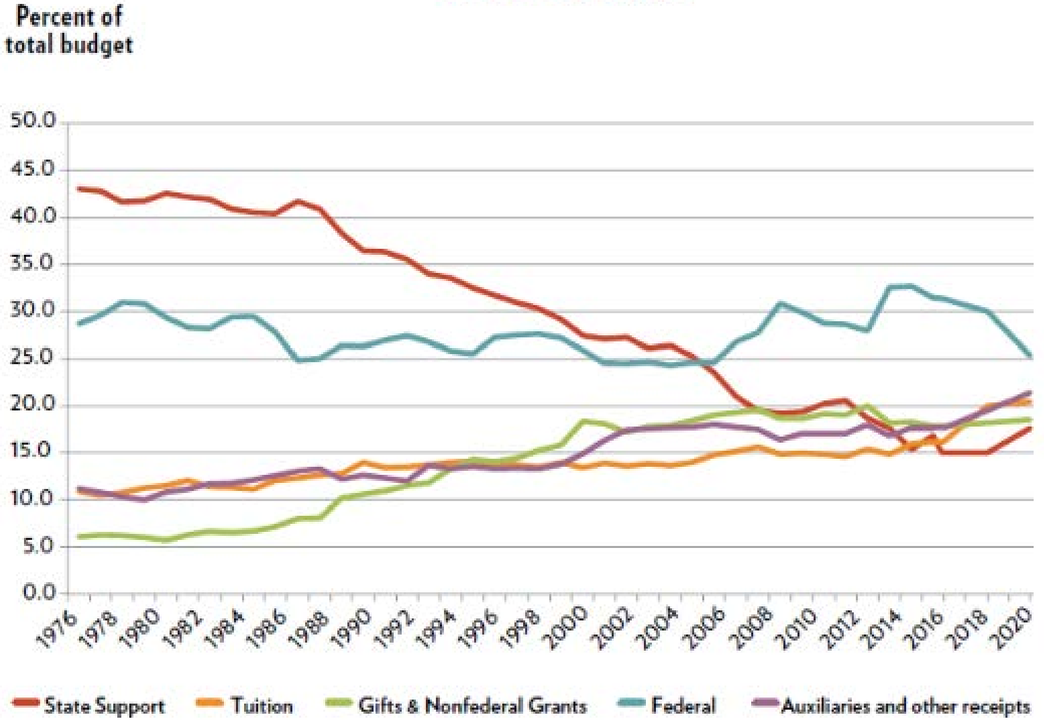
Be open to emerging course modalities

Research indicates that digital, blended, and online can provide quality learning and create equitable experiences for students.

Source of Funds



Source of Funds



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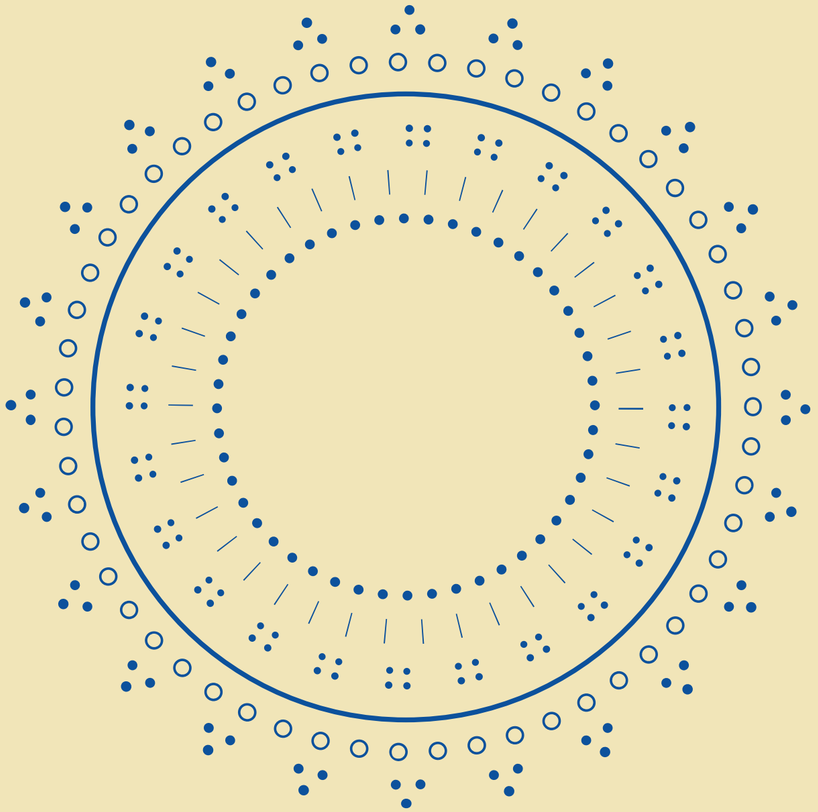
How do we design quality and equitable experiences?



Efforts to ensure quality and equity are not an afterthought. They are part of the vision, mission, strategy, planning, and resources.

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Online Course Quality Indicators

Eight indicators

These indicators were developed based on quantitative and qualitative cross-instutitional studies conducted by the DETA Research Center.

Design

- specific and measurable learning objectives
- alignment to assessments and learning activities
- authentic, real-world experiences

Organization

- well-organized course
- easy to navigate
- logical and consistent format
- alignment between topics and subtopics
- manageable sections

Support

- manage students expectations
- provide orientation to the course (purpose, format, and getting started)
- Illustrate alignment of objectives, assessments, and activities
- clear instructions and directions
- description of grading and assessment plan

Clarity

- reduce barriers to learning
- provide clarity in the expectations of student activity (participation and performance)
- include explanations, descriptions, standards, requirements, guidelines, and context

Instructor - interaction

- express interest in student learning
- actively participate in online discussions
- facilitate learning and peer interaction
- expand students' thoughts and knowledge
- provide new prompts and additional content
- provide timely and detailed feedback on assessments and student inquiries

Peer - interaction

- facilitate active learning through frequent and ongoing peer involvement and meaningful collaborative work
- provide opportunities and technologies available for students to learn from each other

Content - interaction

- strategically enhance the student interaction with accessible and interactive content (preferably OER)
- support dialogue, critical reflection and analysis, and real-world applications of the content
- provide materials that are current, rich, and sufficient in breadth and depth
- identify important topics and provide context

Richness

- provide richness in learning materials and activities, support and instructions, instructor interactions, and tools and media

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What is quality?

Online Learning
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A Cross-institutional Study of Instructional Characteristics and Student Outcomes: Are Quality Indicators of Online Courses Able to Predict Student Success?

Tanya Joosten, Rachel Cusatis, Lindsey Harness

Abstract

A study was conducted to examine instructional characteristics and their relationship to student outcomes in online courses at a 2-year and 4-year higher educational institution. Instructional characteristics included learner support, course design and organization, content design and delivery, interactivity (student-instructor and student-student), and assessment and evaluation. A student survey instrument was created that captures student perceptions of the instructional characteristics of their course, their learning, and their satisfaction with the course. The data collected from the student survey was merged with data from institutional student information systems (e.g., demographics and course grade).

Instructional characterstics influence student outcomes.
No difference for racially minoritized or first gen.

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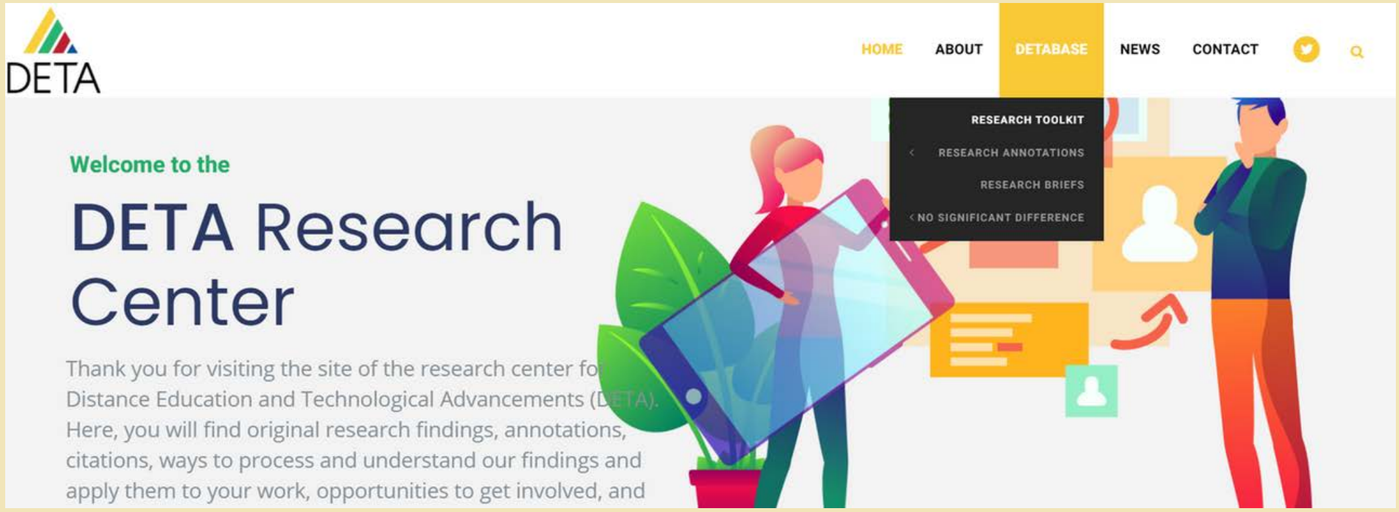

DETABase Research Support

DETA Research Toolkit

Student Survey Instrumentation Packet

This document provides a student survey packet
studies and variables as well as an associated
codebook for surveys and student information sy
data to help guide quantitative data collection.

Instructional and Course Design Characteristics

Reference: Joosten, T., Cusatis, R., & Harness, L. (2019). A cross-institutional study of instructional characteristics and student outcomes: Are quality indicators of online courses able to predict student success? Online Learning, 23(4), 354-378. doi:10.24059/olj.v23i4.1432

Learner Support

Variable Names: ICLEARNS3-ICLEARNS19a

17-items; 5-point Likert Scale; Range → (1) "Strongly Disagree" to (5) "Strongly Agree"

planations on how to get started in the class were clear.

ncluded the purpose and format of the course.

students with adequate notice and time to acquire course

interaction with the instructor, content, and other students was

Instructional and Course Design Survey Codebook

Instructional Characteristics				
Instructional and Course Design + Quality				
Variable ID	Measure ID	Definition	Label	Coding
Instructional characteristics	Learner support	Student report of perceptions of learner support, including course materials and guides to support	ICLEARNS3 - ICLEARNS19a	17 items 5-point Likert scale "Strongly Disagree" to "Strongly Agree" 0 reverse coded

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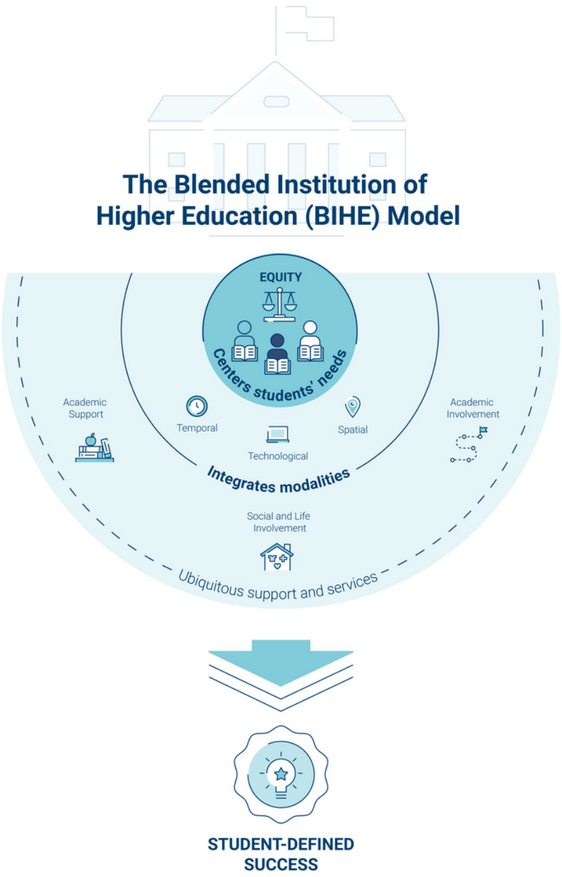
Design institutions



Conisderation Two

Consider design

Research indicates that design improves outcomes. Design intentionally moving beyond instincts, socialization to academia, and previous experiences.

What can I do to move beyond zoom lectures and exams?

Traditional instructionist approaches, lecture-based approached, are still favored by the majority of college courses.

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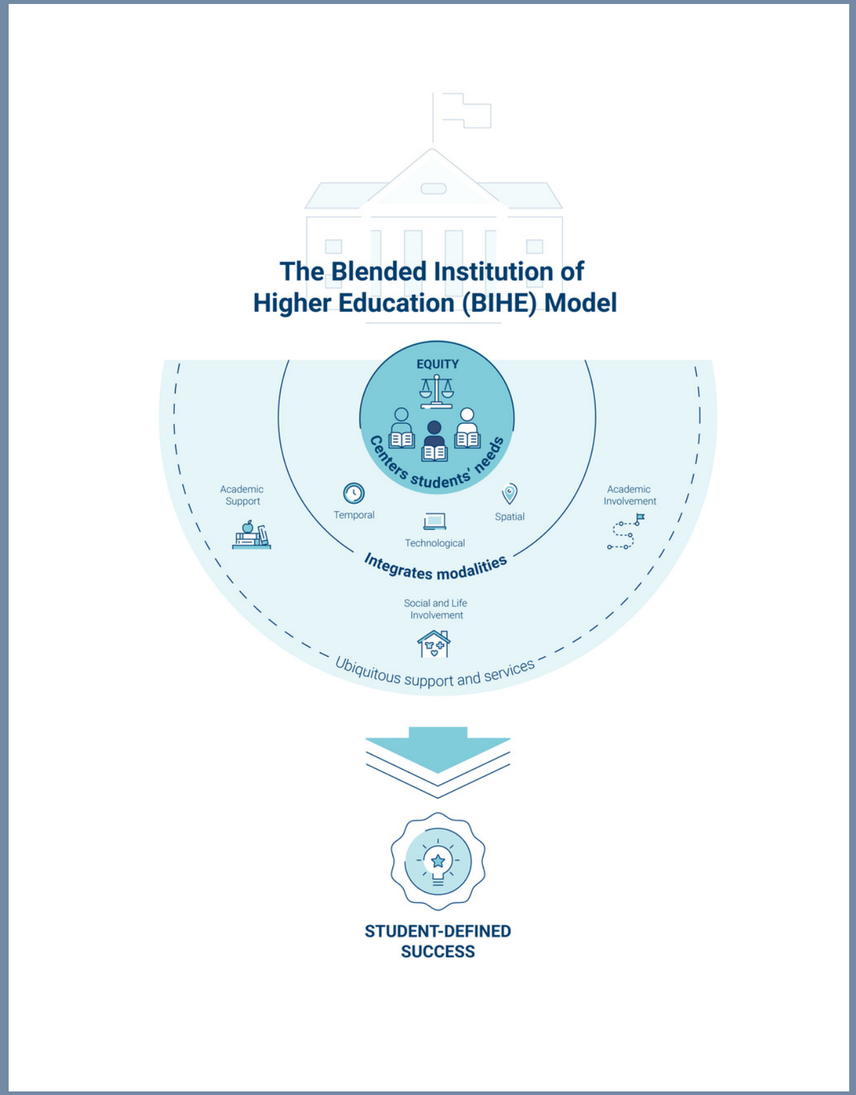
Centering the students



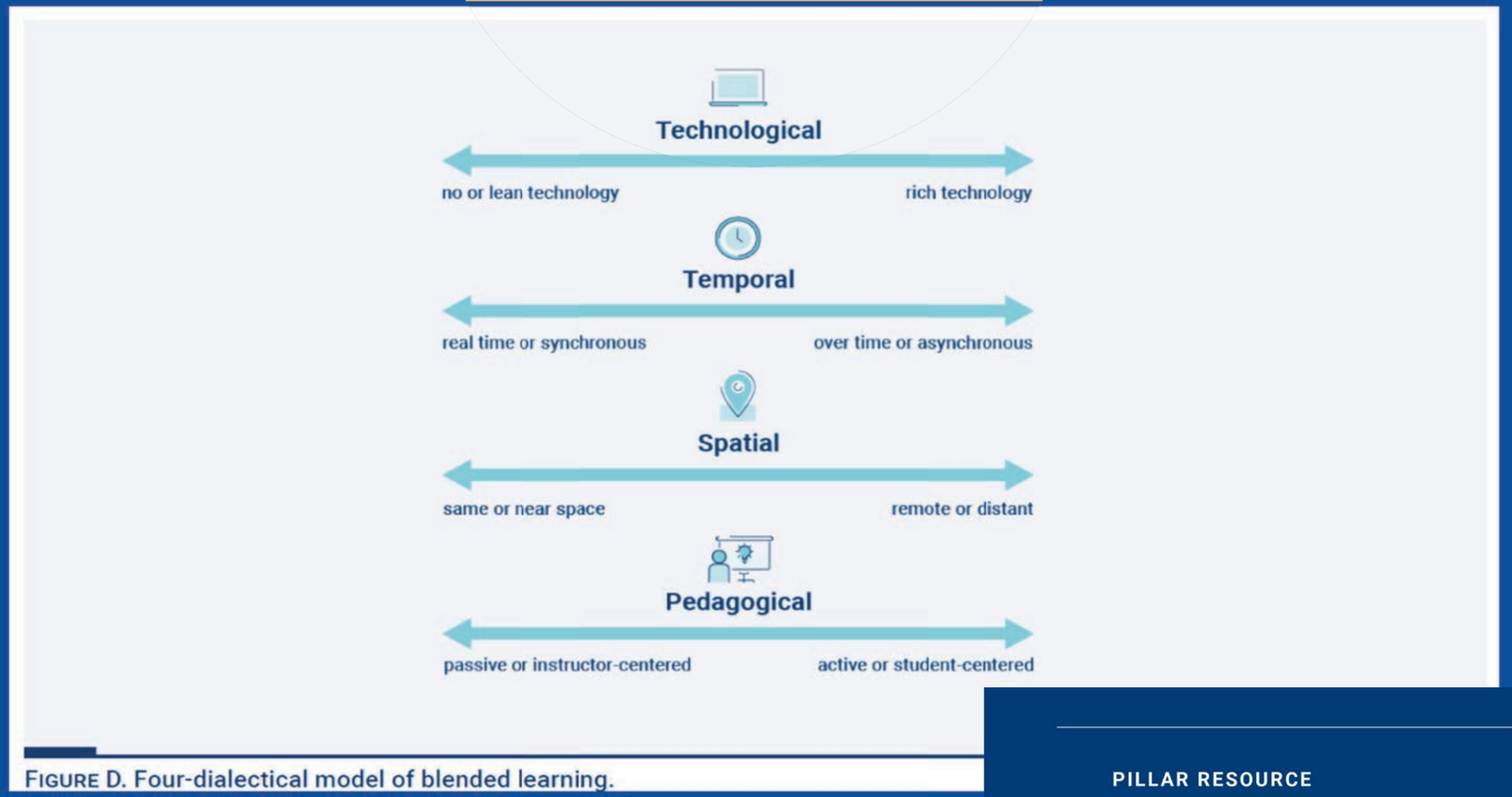
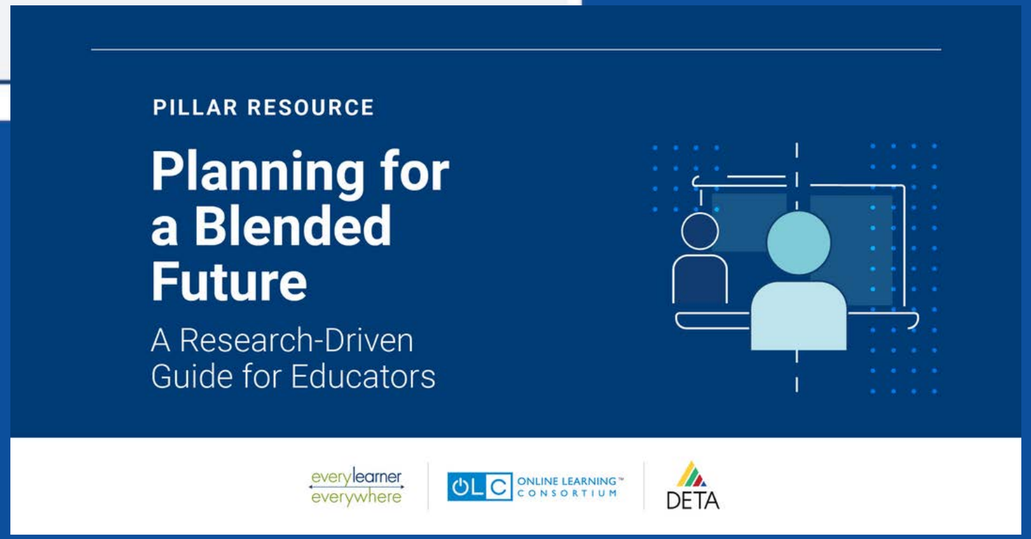


FIGURE D. Four-dialectical model of blended learning.

Move beyond the mode of online and f2f to focus on more meaningful charactersitics - pedagogy



PILLAR RESOURCE

Planning for a Blended Future

A Research-Driven Guide for Educators

everylearner everywhere | OLC ONLINE LEARNING CONSORTIUM | DETA

The four dialecticals of blended learning

Each learning experience has a place on these four dialecticals:

1. **Technological.** This dialectical illustrates the leanness or richness of the technology or media characteristics used in the course (see Daft & Lengel, 1986; Joosten, 2020). Some faculty and instructors may use more lean technologies in their courses such as text-based or oral communication (e.g., face-to-face, textbooks). Others may use more rich technologies such as recorded video (e.g., YouTube) or live meeting tools (e.g., Zoom, Microsoft Teams, Blackboard Collaborate Ultra, Cisco Webex).

2. **Temporal.** The temporal dialectical is reflective as to whether the students meeting in real time (synchronous) or working independently over time (asynchronous). Students may be meeting in real time onsite (e.g., for a lab or group work) or online using a web meeting tool (e.g., Zoom). Or, students may be working independently outside of class (e.g., online threaded discussions or quizzes) allowing more flexibility in when and where they complete their learning activities. During the emergency response to the pandemic, some referred to this model of blended that focuses on the temporal aspect as "bichronous learning," or using a blend of synchronous and asynchronous learning (Martin, Polly, & Ritzhaupt, 2020).

3. **Spatial.** This dialectical provides flexibility by allowing students to learn together or independently from each other providing greater access for students being able to move in time and space. Spatial and temporal dimensions of social processes are often tied together and are essential components in understanding and structuring human behavior (see Giddens, 1984) including teaching and learning.

4. **Pedagogical.** This is the most critical of dialecticals when examining the relationship to learning. As Picciano describes (2009), the course could be driven by pedagogy and not the technology. While often faculty and instructors are looking for solutions to supplement their instruction, it is the changing in the instruction and teaching itself to integrate more active learning pedagogies or ways of teaching that can positively influence student success. Each dimension can be approached with some degree of nuance based on the faculty or instructors' lived experience before and during the global pandemic informing their planning for the future of perfecting their blend for their course, their students, and their program. It often takes several semesters for educators to find the sweet spot of the blend that has the greatest positive relationship to student outcomes.

SUNY The State University of New York

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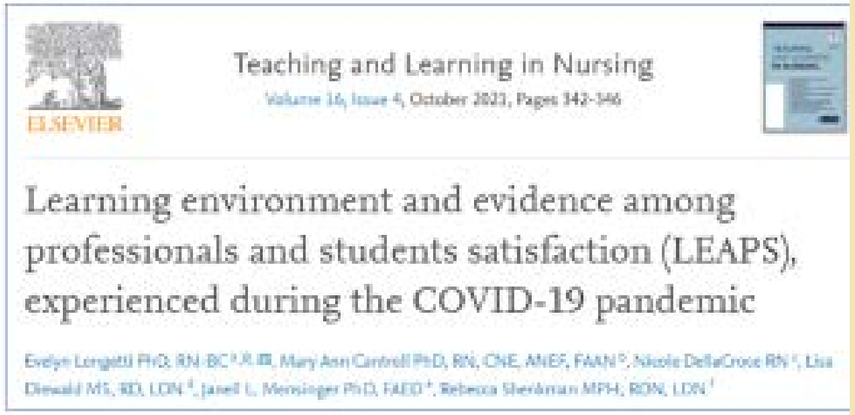

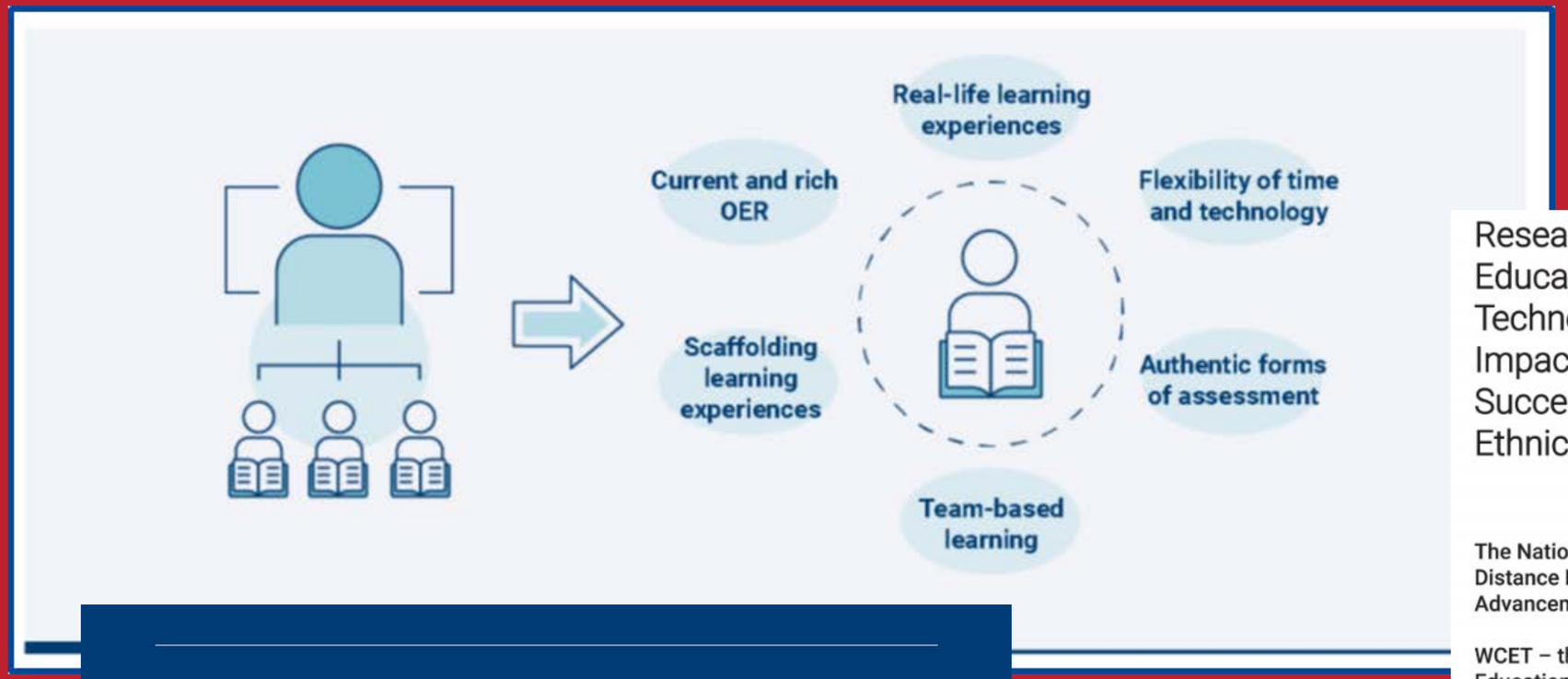

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Conisderation Three

Use more active learning pedagogies and constructivist approaches

Instructionist approaches are antiquated, outdated, and ineffective. Students want authentic learning experiences, and industry wants students with authentic skills

How do you ensure students are successfull in their online courses?

Preparing students and managing expectations even before the course starts can be key.

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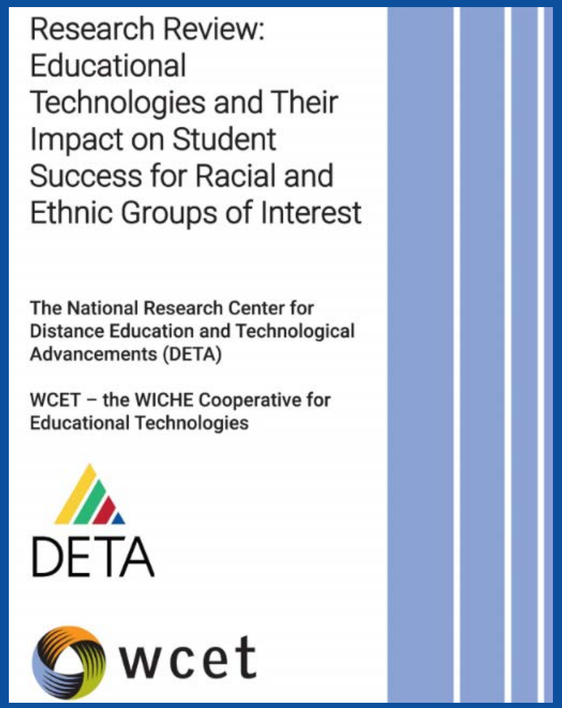

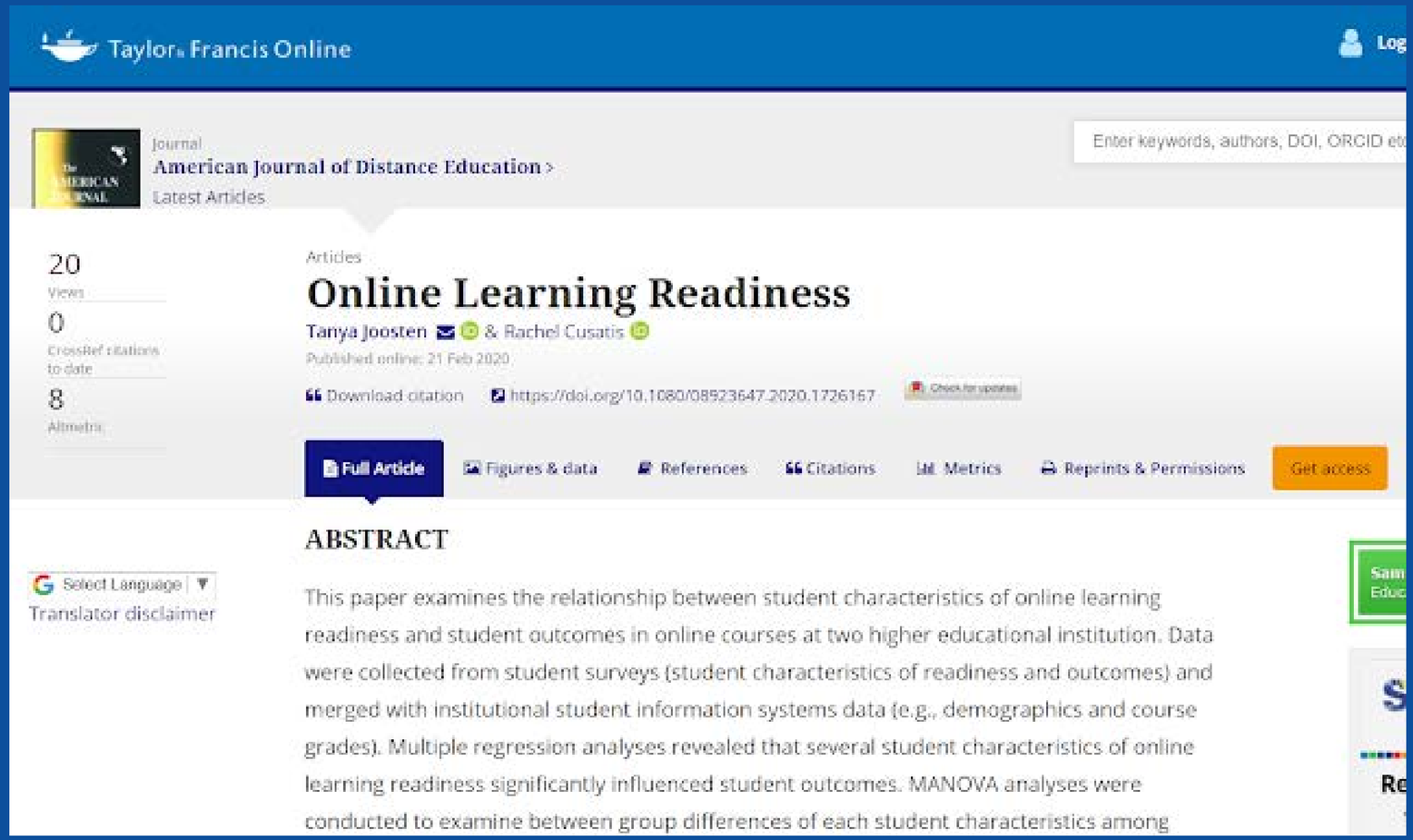

Are students ready for online?

Prepare students to learn

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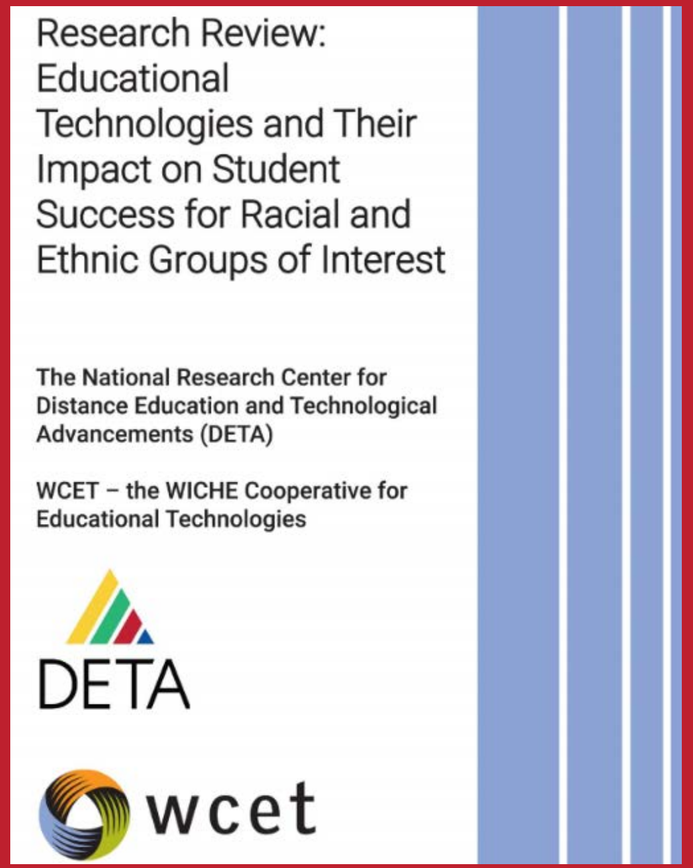

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Conisderation Four

Prepare students for technology and design

Students need to know how to use technology to work and communicate as well as manage flexible environments to learn in tech-enhanced, blended, and online environments?

How do you ensure quality and equitable design?

Efforts to ensure quality and equity are not an afterthought. They are part of the vision, mission, strategy, planning, and resources.

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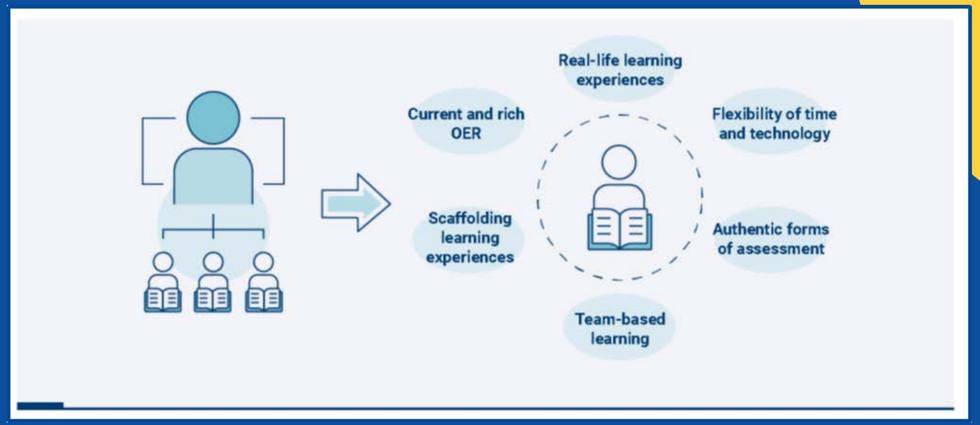

ESSENTIAL ELEMENTS OF BLENDED LEARNING

- Consider student-centered, active learning pedagogies
- Focus on integration of the environments
- Scaffold the students' experience throughout the course

A pedagogical shift

Through the years, the phrase "sage on the stage" is sometimes used in studies discussing the traditional way of teaching before blended redesign helped faculty think differently about their instructional approach (Kaleta et al., 2007). However, when faculty are thinking more strategically about how they teach and what they want their students to demonstrate that they learned throughout the course and at the end of the course, a pedagogical shift occurs through the process. Faculty start rethinking their learning objectives and course goals as well as how those could be best accomplished.

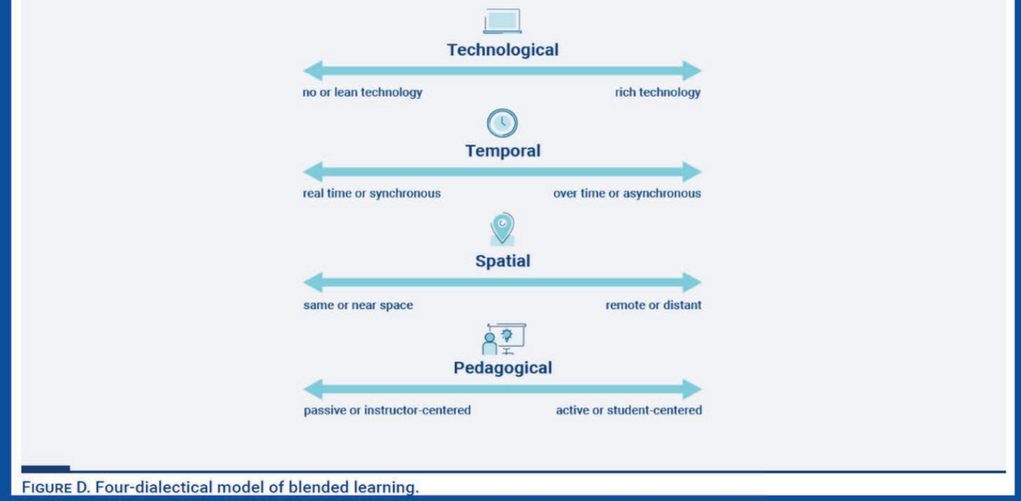

FIGURE D. Four-dialectical model of blended learning.

Preparing for a new pedagogy and technology by enhacing instructor readiness

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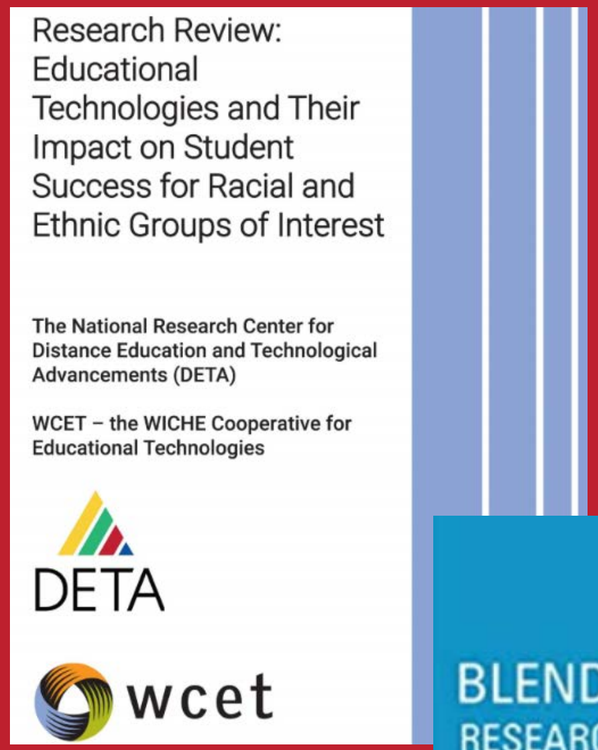
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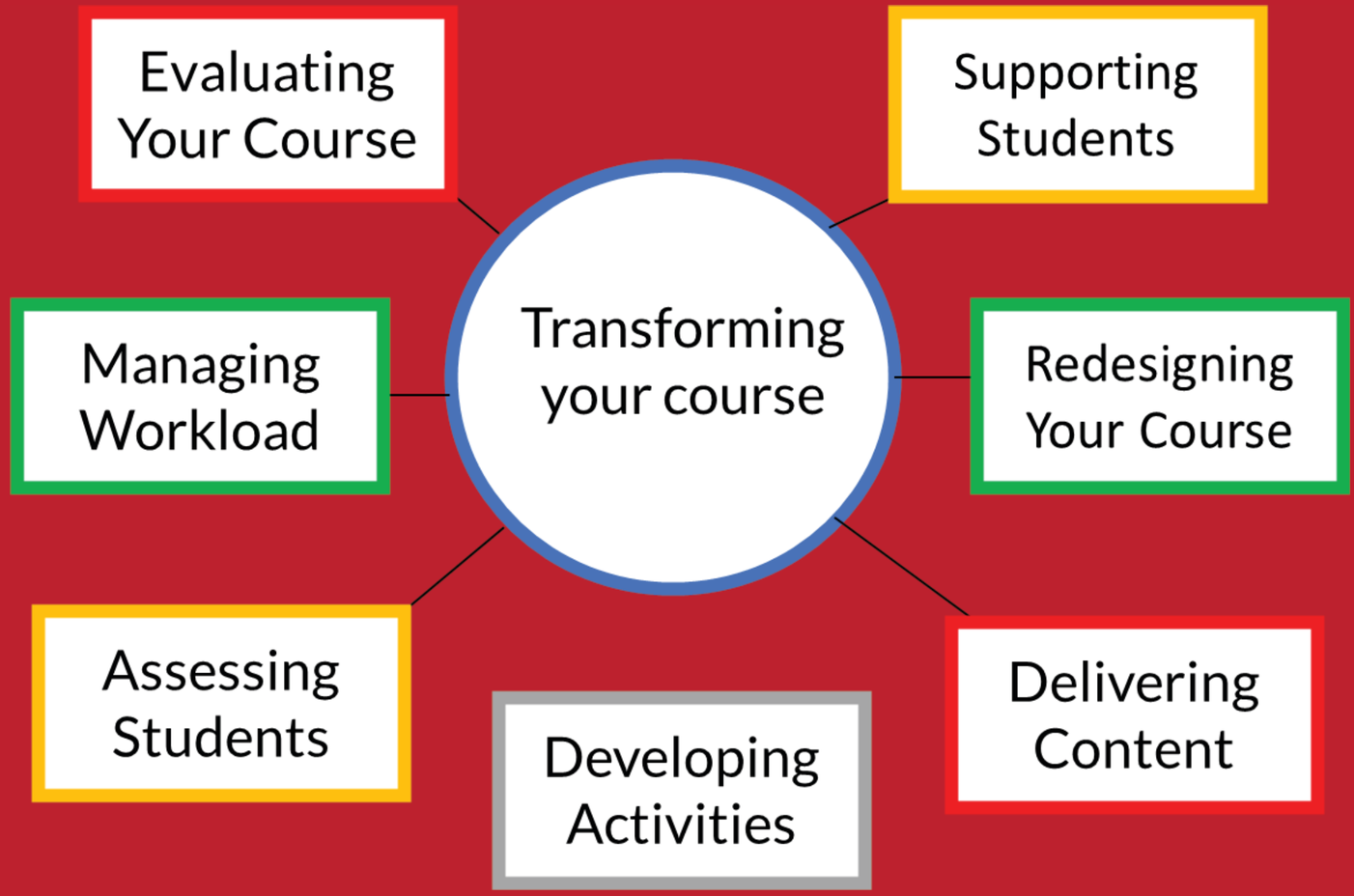
BLENDED LEARNING
RESEARCH PERSPECTIVES
VOLUME 2
Edited by Anthony G. Picciano, Charles D. Dziuban,
and Charles R. Graham


Transforming your course
Evaluating Your Course
Supporting Students
Managing Workload
Redesigning Your Course
Assessing Students
Developing Activities
Delivering Content

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Conisderation Five

Prepare and develop instructors

Faculty and instructors need to understand how to create a structure that facilititates activities and produces documentation that learning objectives were achieved no matter the mode but while understanding what each mode can offer and taking advantage of it.

One more time...

Conisderation One

Be open to emerging course modalities

Research indicates that blended and online can provide quality learning and create equitable experiences for students.

Conisderation Two

Consider design

Research indicates that design improves outcomes. Design intentionally moving beyond instincts, socialization to academia, and previous experiences.

Conisderation Three

Use more active learning pedagogies and constructivist approaches

Instructionist approaches are antiquated, outdated, and ineffective. Students want authentic learning experiences, and industry wants students with authentic skills

Conisderation Four

Prepare students for technology and design

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5 Considerations in Equitable Design

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