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The University of Arizona

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# INTRODUCTION

The *Washington Post* published a report on the state of higher education in Washington state in 2014. The report highlights the state's efforts to improve higher education and the challenges it faces. The report also discusses the state's efforts to improve higher education and the challenges it faces. The report also discusses the state's efforts to improve higher education and the challenges it faces.



# REPORT STRUCTURE

The report is organized into 13 critical focus areas, each with a corresponding theme. The themes are defined by the critical focus areas and are organized into three main sections: the first section covers the themes of advising and mentoring systems, non-academic support systems, and the role of family and community; the second section covers the themes of equitable STEM success, and the role of equity and access; and the third section covers the themes of equitable STEM success, and the role of equity and access. The report is organized into 13 critical focus areas, each with a corresponding theme. The themes are defined by the critical focus areas and are organized into three main sections: the first section covers the themes of advising and mentoring systems, non-academic support systems, and the role of family and community; the second section covers the themes of equitable STEM success, and the role of equity and access; and the third section covers the themes of equitable STEM success, and the role of equity and access.

## Summary of Themes and Critical Focus Areas

The following table summarizes the themes and critical focus areas identified in the report.

1. Advising and mentoring systems are haphazard in focus and goals, and lack alignment with student needs
2. Non-academic support systems focused on family and community are key for equitable STEM success, yet severely underdeveloped
- 3.

7. Culturally Responsive Practices (CRPs), known to enable and sustain academic interest and access for the students HSIs aim to serve, are inconsistently understood and practiced at HSIs
8. P C , E M
9. CRPs are commonly viewed as tangential to the core academic mission
10. P P I ) H I H H
11. Resources at Research 1 (R1) HSIs are mostly inward-facing and not purposefully shared among co-located institutions and communities
12. Extramurally funded STEM programs are underutilized by the students HSIs seek to serve
13. Retention, persistence, and success are core charges of HSIs and their faculties, not just student responsibilities

## Relevant Terms and Usage

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## Advising, Mentoring, and Non-Academic Support Systems

How & space and time to add to a student's legal mentorship and academic support systems as a graduate to complete their access to a sustainable high-quality education and college success. It is an &

1.

### IMPROVE TIMELINESS AND FREQUENCY OF MENTORING

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## 2. Non-academic support systems focused on family and community are key for equitable STEM success yet severely underdeveloped. Oppñlñtu2 ães alñ 2 eeded tñ ãñ ãe+te2 d a2 d dñeñ %ñ2 qñ2 academñc suppñlñt sñstems that e öññe palñ2 tsñ %ñmñna2 d cuñulñ e ãaman 2011 ãna2 d e ãñeñ age stude2 ts' cñmmu2 ãñ qññe2 ted e teñests tñ ö alñs e tegñat e g >Tñ O cññes a2 d degñee pññgñams ö ãh qñca qññlñeg qñ2 a @ eedsñ

### ESTABLISH FAMILY-BASED SUPPORT SYSTEMS

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### DEVELOP COMMUNITY-BASED STEM IDENTITIES

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# STEM Academic Structure and Related Support Systems

Altogether, academic structures between 2; and 4; preschools and guided pathways program are being implemented, and in 2018, the state will continue to fund the implementation of these programs. The goal is to ensure that all students have access to high-quality education and training. The state is committed to providing the best possible educational experience for all students, and we will continue to work with our partners to ensure that our students are prepared for the workforce of the future.

STEM Academic Structure and Related Support Systems	



12 Please go ahead to add access to academic support systems both inside the classroom and online. Some targeted tutoring is also

## Evidence Based Pedagogies

A meta-analysis of 225 studies has shown that evidence-based pedagogies (EBPs) are more effective than traditional lecture-based methods. EBPs include active learning, collaborative learning, and inquiry-based learning. These methods have been shown to improve student learning outcomes, including knowledge, skills, and attitudes. The use of EBPs is supported by a growing body of research, including a 2014 report by the National Academies of Sciences, Engineering, and Medicine. This report found that EBPs are more effective than traditional lecture-based methods for improving student learning outcomes. The report also found that EBPs are more effective than traditional lecture-based methods for improving student engagement and motivation. The use of EBPs is supported by a growing body of research, including a 2014 report by the National Academies of Sciences, Engineering, and Medicine. This report found that EBPs are more effective than traditional lecture-based methods for improving student learning outcomes. The report also found that EBPs are more effective than traditional lecture-based methods for improving student engagement and motivation.



**6. Where diverse EBPs are deployed in good numbers, scalability is behind.** Opportunities are needed to evaluate the effectiveness of EBPs in the context of the current academic environment and to determine the best practices for scaling EBPs.

## RECOMMENDATIONS

### ELEVATE KNOWLEDGE ABOUT LOCALLY AVAILABLE EBP-BASED INITIATIVES AMONG FACULTY AND STUDENTS

At the same time, it is important to ensure that faculty and students are aware of the locally available EBP-based initiatives. This can be achieved through a variety of means, including:

- Faculty development programs that focus on EBPs.
- Student orientation programs that highlight EBPs.
- Regular communication through newsletters, websites, and social media.
- Encouraging faculty and students to share their experiences with EBPs.

### SCALE EBPs ACROSS AND WITHIN DISCIPLINES

Scaling EBPs across and within disciplines is a complex task that requires careful planning and implementation. Key considerations include:

- Identifying the most effective EBPs for each discipline.
- Developing a clear strategy for scaling EBPs.
- Allocating resources to support the scaling process.
- Monitoring and evaluating the impact of scaled EBPs.

### DEEPEN KNOWLEDGE ABOUT SYSTEMIC IMPACT OF EBPs AT HSIs

Understanding the systemic impact of EBPs at HSIs is essential for maximizing their effectiveness. This requires a focus on:

- Data collection and analysis to measure the impact of EBPs.
- Identifying systemic barriers to EBP implementation.
- Developing strategies to address these barriers.
- Promoting a culture of continuous improvement.

## Equity, Diversity, and Culturally Responsive Practices

The following section discusses the characteristics of the term 'culturally responsive' and its relationship to equity and diversity. It is defined as a practice that is based on the understanding of the cultural differences of students and the use of these differences to enhance learning. This approach is based on the idea that all students have the potential to learn and that the role of the teacher is to create a learning environment that is supportive of all students. This approach is based on the idea that all students have the potential to learn and that the role of the teacher is to create a learning environment that is supportive of all students.





the spectrum of CRPs that are most effective in supporting the success of STEM students are those that are designed to address the specific needs of these students and are integrated with the core academic curriculum.

### ESTABLISH NON-ACADEMIC CRP-BASED SUPPORT SYSTEMS FOR STEM STUDENTS

Research suggests that the most effective CRPs are those that are designed to address the specific needs of these students and are integrated with the core academic curriculum.

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**9. CRPs are commonly viewed as tangential to the core academic mission.** Organizations are increasingly based on the premise that CRPs are tangential to the core academic mission and are not essential to the success of the institution.

## RECOMMENDATIONS

### LINK CRPs TO CORE ACADEMIC MISSIONS

The absence of CRPs that are directly linked to the core academic mission is a common barrier to the success of STEM students. Organizations should ensure that CRPs are designed to address the specific needs of these students and are integrated with the core academic curriculum. Research suggests that the most effective CRPs are those that are designed to address the specific needs of these students and are integrated with the core academic curriculum.

### SCALE CRPs WITHIN AND ACROSS INSTITUTIONS

Organizations should ensure that CRPs are scaled within and across institutions to maximize their impact. Research suggests that the most effective CRPs are those that are designed to address the specific needs of these students and are integrated with the core academic curriculum.



# 10.

## Serving Hispanic Students at HSIs

High schools are the gateway to higher education and dedicated educators play a critical role in supporting them to meet the challenges of a competitive global economy. Hispanic students are a growing segment of the U.S. population, and their success in higher education is essential for the nation's economic and social well-being. This document provides a framework for serving Hispanic students at Hispanic Serving Institutions (HSIs).

Key strategies for serving Hispanic students include:

- **Culturally Responsive Teaching:** Educators should use teaching practices that are culturally relevant and affirming for Hispanic students.
- **Academic Support:** Provide targeted academic support, including tutoring, writing centers, and language assistance.
- **Financial Aid:** Assist students in navigating the financial aid process, including understanding federal, state, and institutional aid options.
- **Community Building:** Foster a sense of community and belonging through student organizations, mentorship programs, and campus events.
- **Family Engagement:** Communicate effectively with families, recognizing cultural differences in communication styles.
- **Professional Development:** Provide ongoing training and support for faculty and staff to enhance their cultural competency.

By implementing these strategies, HSIs can create a supportive and inclusive environment where all students, including Hispanic students, have the opportunity to succeed.

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**INCREASE STEM FACULTY PROACTIVE INVOLVEMENT IN RET9C0098**

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# The Southwest Conference on Transforming STEM Education in Hispanic Serving Institutions

Health support from the 1st and 2nd vice presidents of the University of Arizona and the University of Texas at El Paso. The conference was held at the University of Arizona on November 18, 2014. The conference brought together 100 educators from 40 states and the District of Columbia. The conference was structured as follows: See the link.

1. Introduction to the conference 2. Keynote address



