

Institutional Effectiveness Through Strategic Analytics

**Tim Beckett, Higher Education
Solutions Manager
John Sulka, Higher Education Solutions
Architect**

TAIR - Tuesday, February 12, 2013

Session E7, Ivy 2, 2:15 to 3:05 PM

What We Want to Share With You

- Information delivery challenges we've observed in higher education
- Information Builders' customer examples of solutions to those challenges

Challenges Facing You Today

- Our political environment demands results as a precursor to public investment.
- Improving efficiency is demanded for today's fiscal realities.
- The need for quality is ever-present and involves a clear focus on enrollment, retention, and student outcomes.



Accountability – A Culture of Evidence

- The ability to share best practices and leverage successes from other higher education institutions can truly address many of your challenges.
- Transparency and accountability –
 - Longitudinal performance to board, state, and public
- Empowering end user access to data for decision-making in real-time is critical to achieving efficiency and effectiveness of the organization



- My Plan to Fix the World's Biggest Problems

“From the fight against polio to fixing education, what's missing is often good measurement and a commitment to follow the data. We can do better. We have the tools at hand.”



Bottom Line

- Your core mission, new requirements from government place greater demands on your institution than ever before
- Both public and private institutions are being encouraged to reconsider their missions
- Strategies for improvement need to come from higher education community



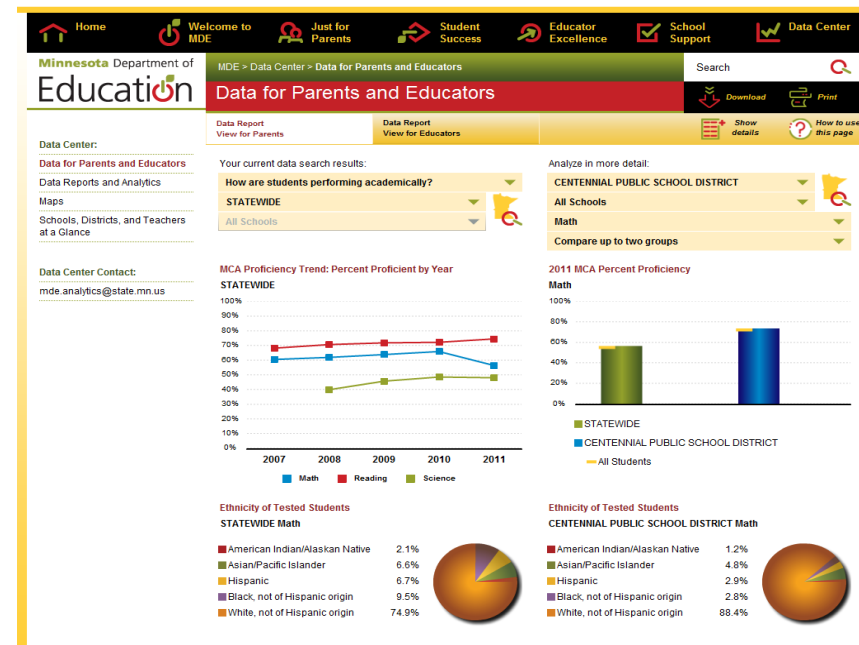
Impact on Staff

- Academic program coordinator shared:
 - She does academic advising, working one-on-one with students, & working with student schedules.
 - To find most likely candidates for the Engineering Honors program, she would pull transcripts, checking qualifications for scholarships – took 2 weeks of effort
- An institutional research department of 5 people spends a full month each year to create its fact book -- labor that must be re-started annually.
 - Manually, Excel-based, error-prone
- The provost of Princeton University testified
 - Renewing accreditation ran over \$1 million, hundreds of hours of staff time.
- Large community college wanted greater accountability, and an information interface suitable for the board
 - Were planning to invest 3 years into creating a data warehouse...
 - And then **begin** building the dashboard



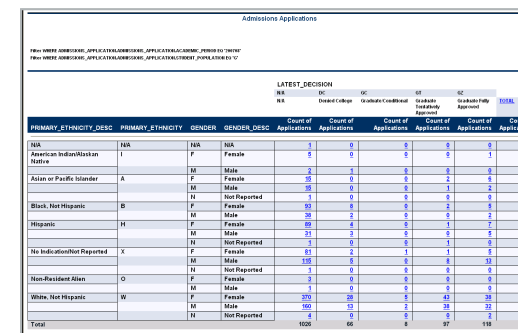
Addressing the Problem

- Use of academic dashboards allow the board to make the best use of their funds through strategic, data-driven decisions.
- Use of self-service analytics to functional units and the public increases efficiency, reduces dependence on IT



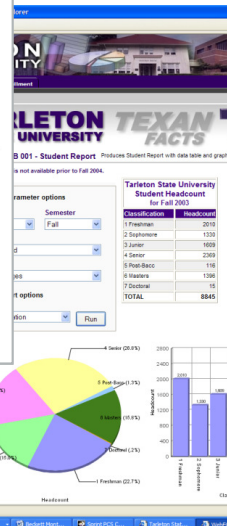
**Information
Builders**

- Helping You Show **Accountability Toward Your Strategic Goals** with boardroom-quality dashboards & a comprehensive performance management framework.
- Providing Reporting & Advanced Analytics, that help empower **Smarter Decision-Making** across all levels & functions.



Why Us?

- Providing a scalable architecture for deploying wide-scale, **Public-Facing Institutional Intelligence** applications, such as interactive fact books.
- Solutions for unifying data from diverse sources, with data integrity, to achieve a **360-degree View of Students**, teachers, and schools



Academic Performance Detail
King, Stephanie

[View Admission Data](#)

Jump to: This Page

Didactic Performance By Semester

Semester	Class Rank	Course Name	Score
Spring 2003 TCOM	11 of 104	Osteopathic Manipulative Med 4	97
		Nervous System 2	90
		Hematopoietic System 2	97
		Reproductive System 2	92
		Gastrointestinal System 2	95
Fall 2002 TCOM	15 of 110	Clinical Medicine 4	99
		Osteopathic Manip Medicine 3	92
		Fundamentals of Treatment	93
		Genitourinary System 2	93
		Cardiovascular System 2	92
		Respiratory System 2	93
		Musculoskeletal/Skin System 2	98

Examples of Customers We're Helping

Provide Institutional Accountability

Houston Community College, an Achieving the Dream Leader College, needed to collect performance data, analyze it, and present it in a way that encourages fact-based decision-making.

Strategy: Give administrators, staff, and the board power to drill down into the data through graphical dashboards.

Result: The new system helps the college document and evaluate decisions, measure enrollment, track student outcomes. It also eases communication, helping the college to make tough budgetary decisions based on broadly accepted performance indicators.



HOUSTON COMMUNITY COLLEGE

Let's go to HCC's Academic Dashboard now!

Information
Builders



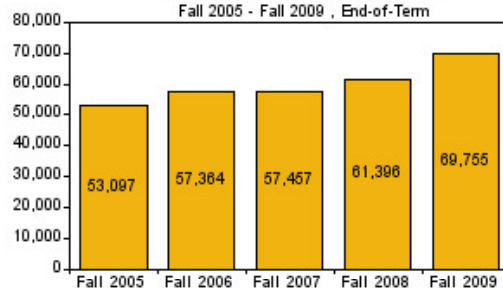
Smart Decision

Relevant • Opportunity • Essential



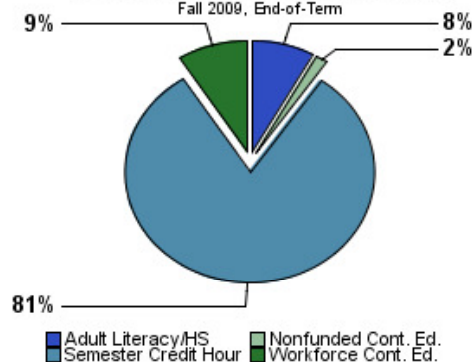
Total Unduplicated Enrollment

Fall 2005 - Fall 2009, End-of-Term



Unduplicated Enrollment by Career Type

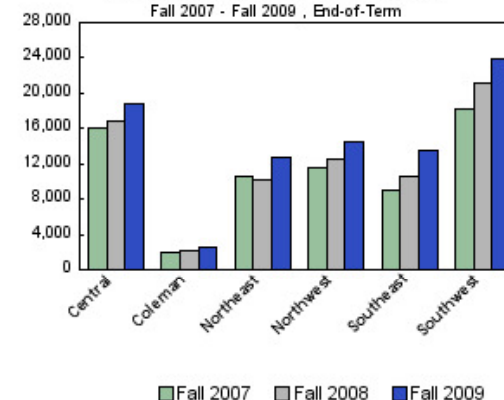
Fall 2009, End-of-Term



Term: **Fall 2009** Run

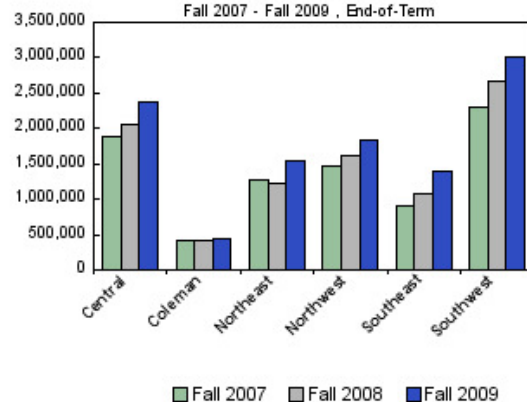
Unduplicated Enrollment by College

Fall 2007 - Fall 2009, End-of-Term



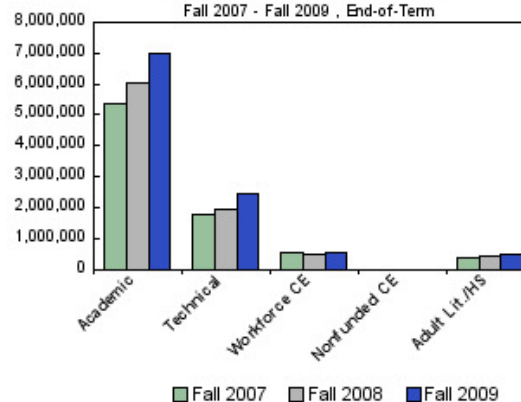
Contact Hours by College

Fall 2007 - Fall 2009, End-of-Term

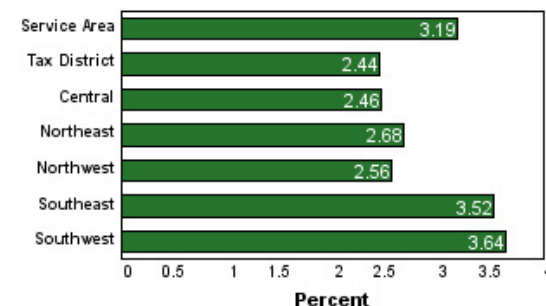


Contact Hours by Career Type

Fall 2007 - Fall 2009, End-of-Term



Participation Rate by Area - Fall 2008



Term: **Fall 2008** Run

On the Intranet

Information
Builders

The screenshot shows a web browser window displaying the Institutional Research intranet. The browser's address bar shows 'Institutional Research'. A yellow banner at the top of the page reads 'Good Morning Martha Oburn'. Below this is a navigation bar with links: HOME, COLLEGES, POLICIES, PROCEDURES, FORMS, COUNCILS & COMMITTEES, and SACS. The main header area features the text 'Institutional Research' followed by a breadcrumb trail 'Home > Institutional Research'. A secondary navigation bar contains links: DECISION SUPPORT SYSTEM, SURVEYS & STUDIES, EXTERNAL REPORTING, and ABOUT INSTITUTIONAL RESEARCH. The content area is divided into three columns: 'News and Alerts' (showing 'No News or Alerts at This Time'), 'Instant Links' (listing 'Daily Enrollment Reports', 'Enrollment Management Resources', 'Program Review Resources', 'SEOI Resources', and 'Interactive Web Reports'), and 'Ask IR' (listing 'Service Request Form' and 'IR Blog'). The footer includes 'Terms of Use | Privacy Statement' on the left and '© 2011 Houston Community College. All rights reserved.' on the right.

Institutional Research

Good Morning Martha Oburn

HOME COLLEGES POLICIES PROCEDURES FORMS COUNCILS & COMMITTEES SACS

Institutional Research | Home > Institutional Research

DECISION SUPPORT SYSTEM | SURVEYS & STUDIES | EXTERNAL REPORTING | ABOUT INSTITUTIONAL RESEARCH

News and Alerts	Instant Links	Ask IR
No News or Alerts at This Time	Daily Enrollment Reports	Service Request Form
	Enrollment Management Resources	IR Blog
	Program Review Resources	
	SEOI Resources	
	Interactive Web Reports	

Terms of Use | Privacy Statement

© 2011 Houston Community College. All rights reserved.

Supporting Instruction

Information
Builders

WebFOCUS Business Intelligence Dashboard



Program Review



HCCfacultyfacts

Class Size | Contact Hours | Faculty Ratios | Seat Count (Enrollment) | SEOI

Class Size

Class Size



Select Vertical Sort

Sort1	Sort2	Sort3	Sort4
Term	No Selection	No Selection	No Selection
Sort5	Sort6	Sort7	
No Selection	No Selection	No Selection	



Select Horizontal Sort

Sort8

No Selection

Term

College



Select Filters

Dual Cr / Distance Ed / On Campus

- ☒ No Selection
- ☐ Dual Credit Only
- ☐ Distance Education Only
- ☐ On Campus Only

Term

ALL

Fall 2010

Summer 2010

Spring 2010

Fall 2009

Summer 2009

College

ALL

Central College

Coleman-Health Science

Northeast College

Northwest College

Southeast College

Location

ALL

Alief Campus

Alief Continuing Edu.

Automotive Technology Ce

Booker T. Washington HS

Program

ALL

Accounting

Agricultural Science, Academ

Air Conditioning/Refrigeration

Anthropology

Arranging Comp. & Productio

Subject

ALL

ABDR

ACCT

ACNT

AERM

AGMG

Catalog Number

ALL

0100

0101

0102

0106

0108

Instruction Mode

ALL

DVD

Hybrid

In Person

Internet

Videocassette

Report Sub-Heading (optional)

Note: Referencing selected filters is recommended

Select Output Format

- ☒ HTML
- ☐ PDF
- ☐ Excel


Run Report

Faculty Ratio


Information
Builders

Faculty Ratios

Faculty Ratio Parameter Driven Reports


 By **Select Vertical Sort :**

Sort1 <input type="text" value="Term"/>	Sort2 <input type="text" value="Subject"/>	Sort3 <input type="text" value="No Selection"/>	Sort4 <input type="text" value="No Selection"/>
Sort5 <input type="text" value="No Selection"/>	Sort6 <input type="text" value="No Selection"/>	Sort7 <input type="text" value="No Selection"/>	

 **Select Horizontal Sort :**

Sort8

Term
Career
College

 **Select Filters :**




Distance Education/Dual Credit <input type="radio"/> Distance Education only <input type="radio"/> Dual Credit only <input checked="" type="radio"/> No Selection	Term <input type="text" value="ALL"/> Fall 2010 Quarter IV 2010 Summer 2010 Spring 2010	Career <input type="text" value="ALL"/> AHS CEU NCR SCH	College <input type="text" value="ALL"/> Central College Coleman-Health Science Northeast College Northwest College
Location <input type="text" value="ALL"/> Alief Campus Alief Continuing Edu. Automotive Technology Center	Course Name <input type="text" value="ALL"/> Accounting Air Conditioning/Refrigeration Anthropology Arranging Comp. & Production	Subject <input type="text" value="ALL"/> ABDR ACCT ACNT AERM	Course Number <input type="text" value="ALL"/> 0100 0101 0102 0106

Report Title :

Heading1: **HCC Faculty Ratio Report**

Heading2: (optional)

Select Output Format :

 ☐ HTML  ☒ PDF  ☐ EXCEL

Run Report

Faculty Ratio

HCC Faculty Ratio Report


TERM	SUBJECT	# FT	% FT	# FOL	% FOL	# PT	% PT	Total # of Sections
Fall 2010	ABDR	9	100.0	0	.0	0	.0	9
	ACCT	41	55.4	4	5.4	29	39.2	74
	ACNT	41	45.6	3	3.3	46	51.1	90
	AERM	0	.0	0	.0	2	100.0	2
	ANTH	14	51.9	1	3.7	12	44.4	27
	ARAB	0	.0	0	.0	2	100.0	2
	ARCE	0	.0	0	.0	3	100.0	3
	ARTC	21	51.2	0	.0	20	48.8	41
	ARTS	53	24.9	1	.5	159	74.6	213
	ARTV	1	33.3	0	.0	2	66.7	3
	ASTR	9	64.3	3	21.4	2	14.3	14
	AUMT	36	85.7	0	.0	6	14.3	42
	BARB	5	71.4	0	.0	2	28.6	7
	BCIS	28	45.2	3	4.8	31	50.0	62
	BIOL	146	35.7	52	12.7	211	51.6	409
	BIOM	0	.0	0	.0	1	100.0	1
	BITC	3	60.0	0	.0	2	40.0	5
	BMGT	20	55.6	2	5.6	14	38.9	36
	BNKG	4	36.4	2	18.2	5	45.5	11
	BUSG	29	49.2	2	3.4	28	47.5	59
	CDEC	4	40.0	2	20.0	4	40.0	10
	CETT	8	72.7	0	.0	3	27.3	11
	CHEF	12	50.0	5	20.8	7	29.2	24
	CHEM	50	31.6	22	13.9	86	54.4	158
	CHIN	0	.0	0	.0	3	100.0	3
	CHLT	0	.0	0	.0	2	100.0	2
	CJLE	7	100.0	0	.0	0	.0	7
	CJSA	1	100.0	0	.0	0	.0	1

Average class size


Class Size

Class Size


Parameter Driven Report

 By **Select Vertical Sort**

Sort1 Term	Sort2 Subject	Sort3 Catalog Number	Sort4 No Selection
Sort5 No Selection	Sort6 No Selection	Sort7 No Selection	

 Across **Select Horizontal Sort**

Sort8 No Selection

 **Select Filters**

Dual Cr / Distance Ed / On Campus <input type="radio"/> No Selection <input type="radio"/> Dual Credit Only <input type="radio"/> Distance Education Only <input checked="" type="radio"/> On Campus Only	Term ALL Fall 2010 Summer 2010 Spring 2010 Fall 2009 Summer 2009	College ALL Central College Coleman-Health Science Northeast College Northwest College Southeast College	Location ALL Alief Campus Alief Continuing Edu. Automotive Technology Ce Booker T. Washington HS
Program ALL Accounting Air Conditioning/Refrigeration Anthropology Arranging Comp. & Production Art	Subject ALL ABDR ACCT ACNT AERM ANTH	Catalog Number ALL 0100 0101 0102 0106 0108	Instruction Mode ALL DVD Hybrid In Person Internet Web Enhanced

Report Sub-Title (optional)

Select Output Format

 ☒ HTML  ☐ PDF  ☐ Excel

Run Report

**Information
Builders**

Semester Credit Hour Class Size

[illegible]

More Information in One Location

Stephen F. Austin State University wanted to use a dashboard instead of the old Fact Book format.

- Users can locate all the elements of data that were available in the traditional Fact Book with more functionality
- More semesters of data are available for analysis in one location
- Parameters allow the user to focus on a specific area of interest if desired.





STEPHEN F. AUSTIN STATE UNIVERSITY

JACKFACTS

Let's go to SFA's Dashboard now!

SFA Home

Institutional Research

Welcome

Headcount

Credit Hours

Degrees

Faculty

FAQ

Level

Undergrad

Course Load

Full-time

Group

ALL

College

Business

Unit

Mgmt, Mktg

Degree Level

Bachelor

Degree

BBA

Major

ALL

Term/Year

Spring 2013

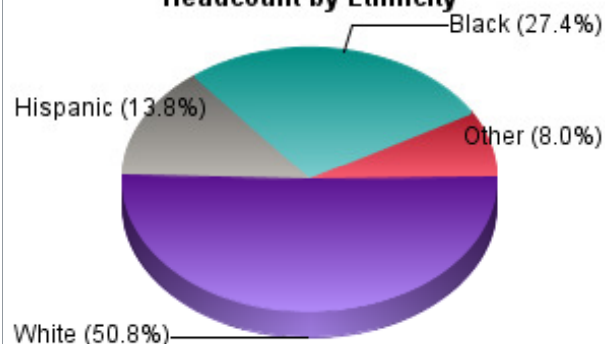
Submit

Bookmark

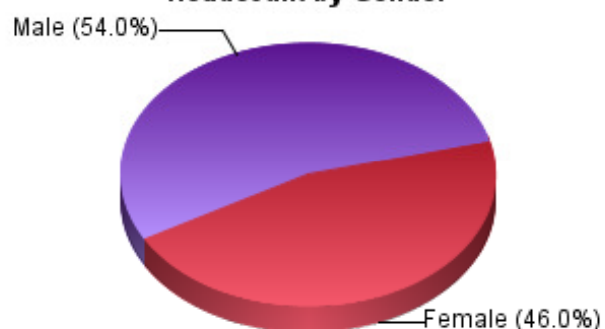
Print

Click any chart for more detailed information.
Avoid using the back button for navigation.

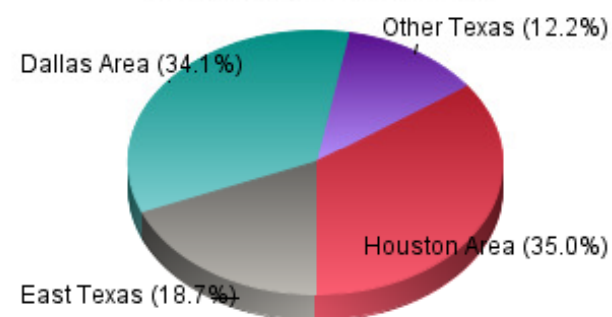
Headcount by Ethnicity



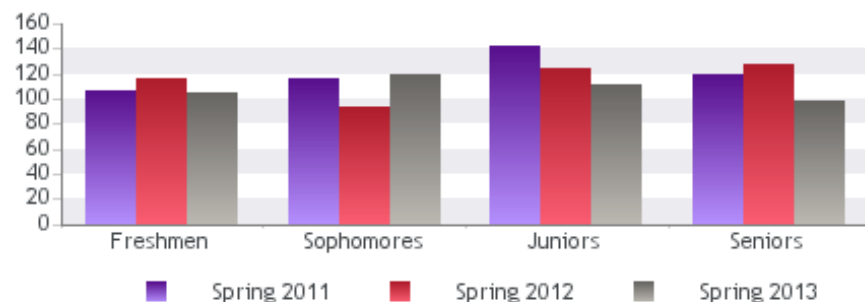
Headcount by Gender



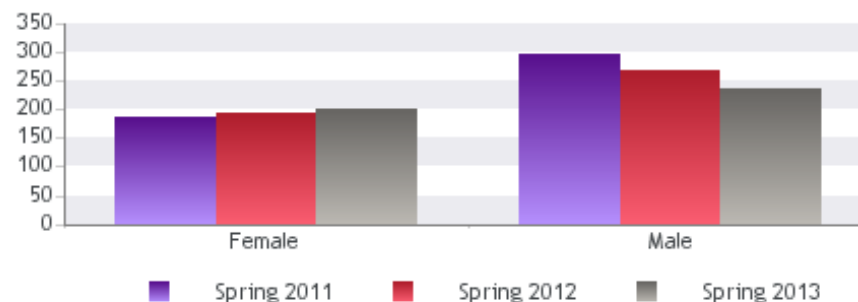
Headcount by Texas Origin



Headcount by Classification and Term



Headcount by Major and Gender



Closing Reporting Gaps

- **Texas Higher Education Coordinating Board** needed to
 - Increase operational efficiency
 - Improve the monitoring of key metrics and milestones
 - Enhance communication with the public
- **Result:** By eliminating cumbersome manual reporting processes and printed reports, and making information instantly available to users inside and outside the agency
 - THECB has the insight it needs to meet its goals as well as to increase visibility and accountability.



Regional and District Accountability

Information
Builders

[Home](#) | [THECB Main Website](#)

[About Our Data](#) | [About THECB](#) |

[Contact Us](#)

T ★ E ★ X ★ A ★ S

HIGHER EDUCATION DATA

GO

[Overview \(Quick Links\)](#) | [External Data Resources](#) | [Online Applications](#) | [Higher Education Topics](#) | [High School to College \(P-16\)](#) | [Reporting](#)

[to THECB](#) | [A-Z Index](#)

Policymakers

[Accountability, almanac, financials...](#)

Parents, Students & K-12 Educators

[Online Resume, H.S. to college stats...](#)

Media

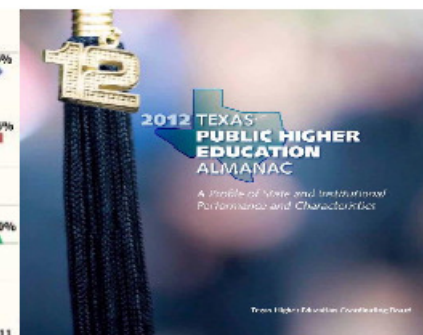
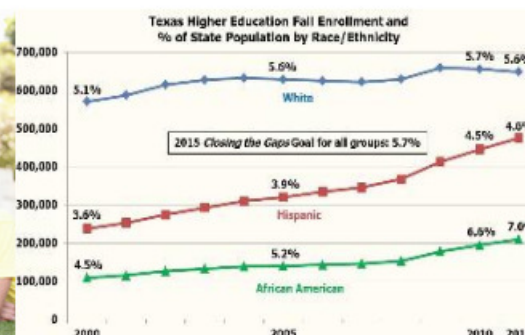
[Overview, Almanac, Press Releases...](#)

Institutions and Researchers

[Reporting data, statistics...](#)

Career and Workforce Educators

[Perkins, WECM, Workforce Topics...](#)



Latest News

02/06/2013 [Data Resources for LBB Measures](#)

02/04/2013 [Online Institutional Resumes: 2013 Update](#)

01/25/2013 [Enrollment Forecast 2013-2020 for Texas Colleges and Universities](#)

01/25/2013 [Texas Higher Education](#)

Overview (Quick Links)

[Closing the Gaps](#)
[Closing the Gaps Dashboard](#)
[Data Resources Overview](#)
[Degrees - Statewide](#)
[Enrollment - Statewide](#)
[Higher Ed Almanac](#)
[Higher Ed Locator Map \(HELM\)](#)
[List of Institutions](#)
[Media Advisories](#)
[Reports and Publications](#)
[Texas Higher Ed Facts](#)
[More...](#)

External Data Resources

[College for all Texans](#)

Online Applications

[Accountability](#)
[Community College Annual Reporting Tool \(CARAT\)](#)
[Course and Program Inventories](#)
[Facilities Inventory](#)
[Online Institutional Resumes](#)
[Profile Reports \(PREP\)](#)
[Regional Portal](#)
[More...](#)

Higher Education Topics

>>>Participation
[Applicants/Acceptance/Enrollment](#)
[Developmental Ed Data \(TSI\)](#)
[Developmental Ed Survey \(DEPS\)](#)
[Distance Ed Data](#)
[Enrollment Forecast](#)
[Student Migration Report](#)
[Texas Higher Ed Enrollments](#)
[More...](#)

>>>Success

[Annual Licensure Report](#)
[Gainful Employment - Placement Rate](#)
[Graduation Rates](#)

High School to College (P-16)

[7th Grade Cohorts](#)
[7th Grade Cohorts Dashboard](#)
[Dual Credit Data](#)
[HS Grads Enrolled in Higher Ed](#)
[HS Grads GPA in Higher Ed](#)
[HS Grads Higher Ed Outcomes](#)
[HS Grads Higher Ed Preparation \(TSI\)](#)
[Tracking Postsecondary Outcomes Dashboard](#)
[More...](#)

Reporting to THECB

[CBM Reporting Status](#)
[CBM Reporting Manuals](#)
[CIP Codes](#)

Tracking Postsecondary Outcomes Dashboard - Texas High School Graduates

Welcome

Enrollment

Persistence

College Readiness

Compare Regions

Compare Districts

Across Years

Enrollment

HS Graduation Year

2004

Region

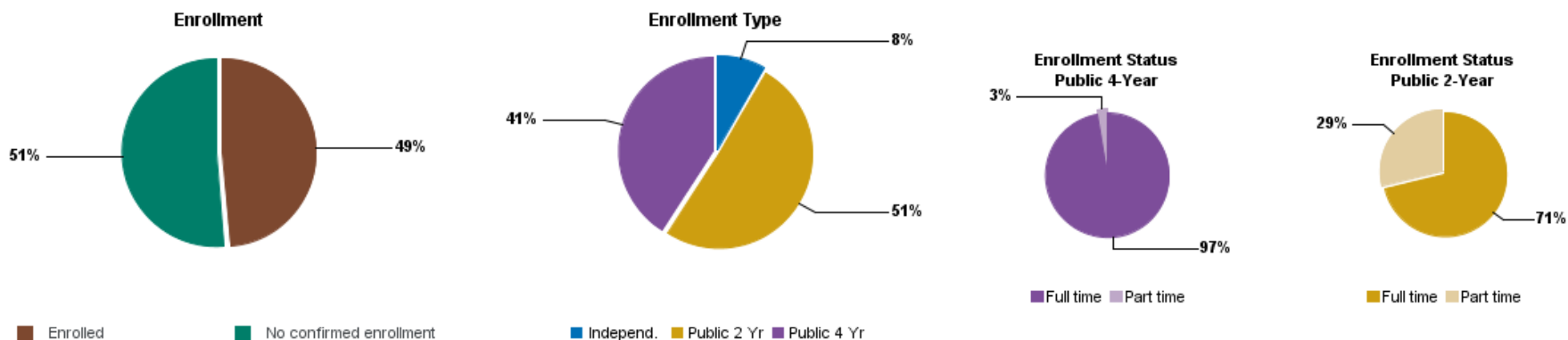
All Regions

District

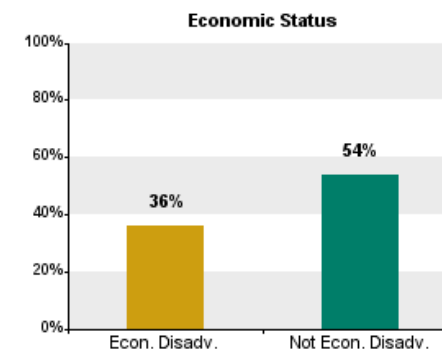
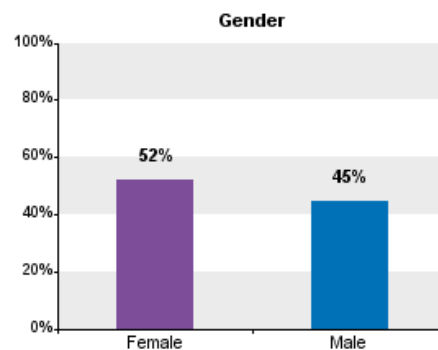
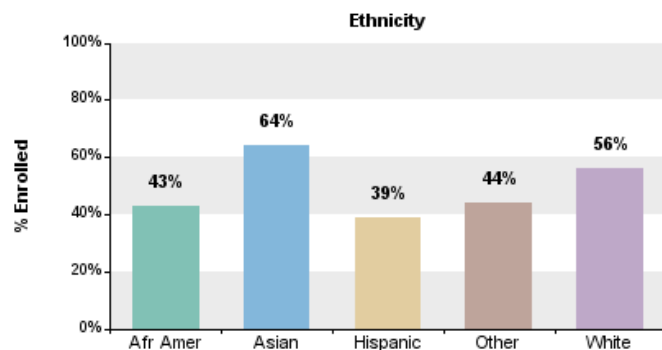
All Districts

Run

Percentage of high school graduates that enrolled in Texas postsecondary education by fall following high school graduation



Percentage of high school graduates that enrolled in Texas postsecondary education by demographic subgroups

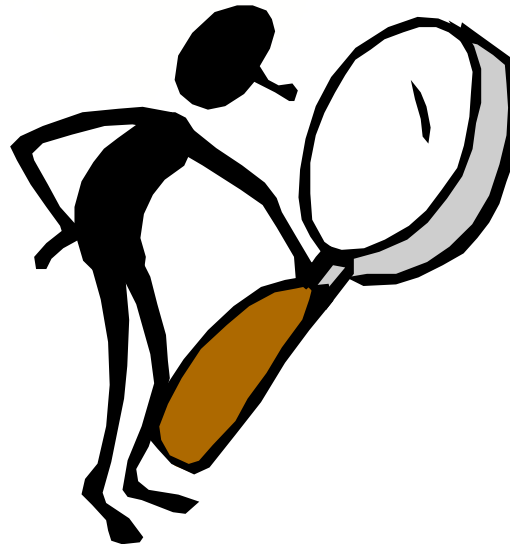


12 Step Program

1. Envision a future
2. Get support from the top
3. Set priorities
4. Have a plan
5. Hire great people
6. Develop partnerships
7. Use the right tools
8. Accept help where needed
9. Keep on task
10. Monitor progress
11. Celebrate successes along the way
12. Decide what to do next

1. Envision a future

Decision support system is a way to model data and make quality decisions based upon it.



Key Questions

- Who makes decisions
- What decisions are made
- What information is needed
- How is it organized
- When is it needed



2. Get support from the top



the strategic plan
for our future

relevance & opportunity: a strategic plan essential to our future | 2008 - 2011

HCC's 2008-11 Strategic Plan

Goal 6—Accountability
and Strategic Decision-
making

**Develop an institutional
dashboard to
document and
evaluate the results of
decisions.**

- General Information about HCC
- 2.8 - Faculty
- 3.3.1.1 - IE Instructional Programs

3. Set priorities

Phased implementation

Phase 1: Academic Dashboard (2009-10)

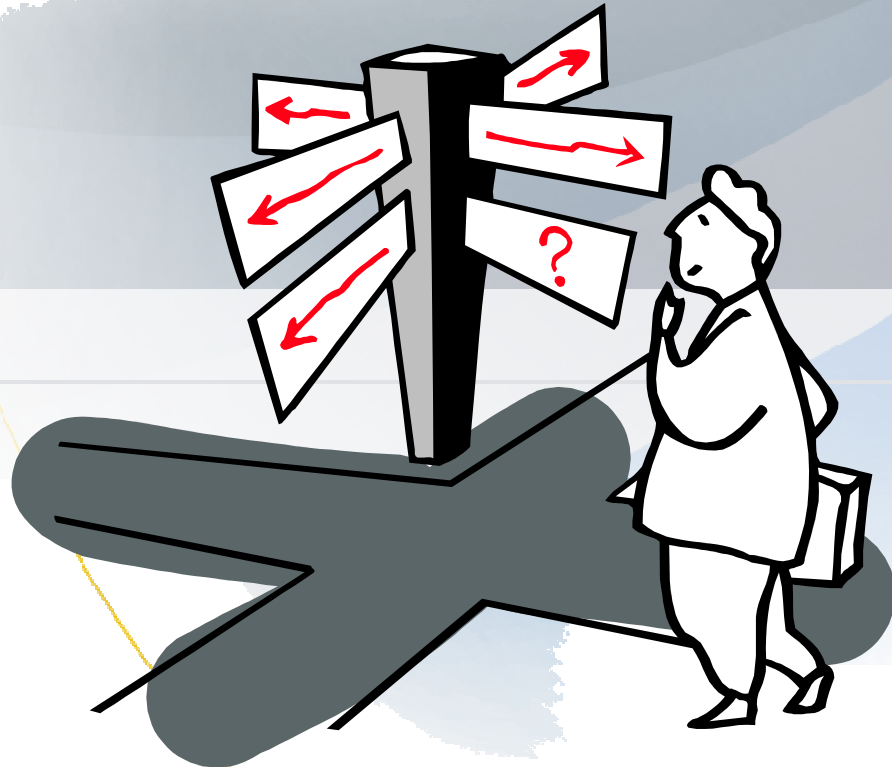
Phase 2: Program Review (2010-11)

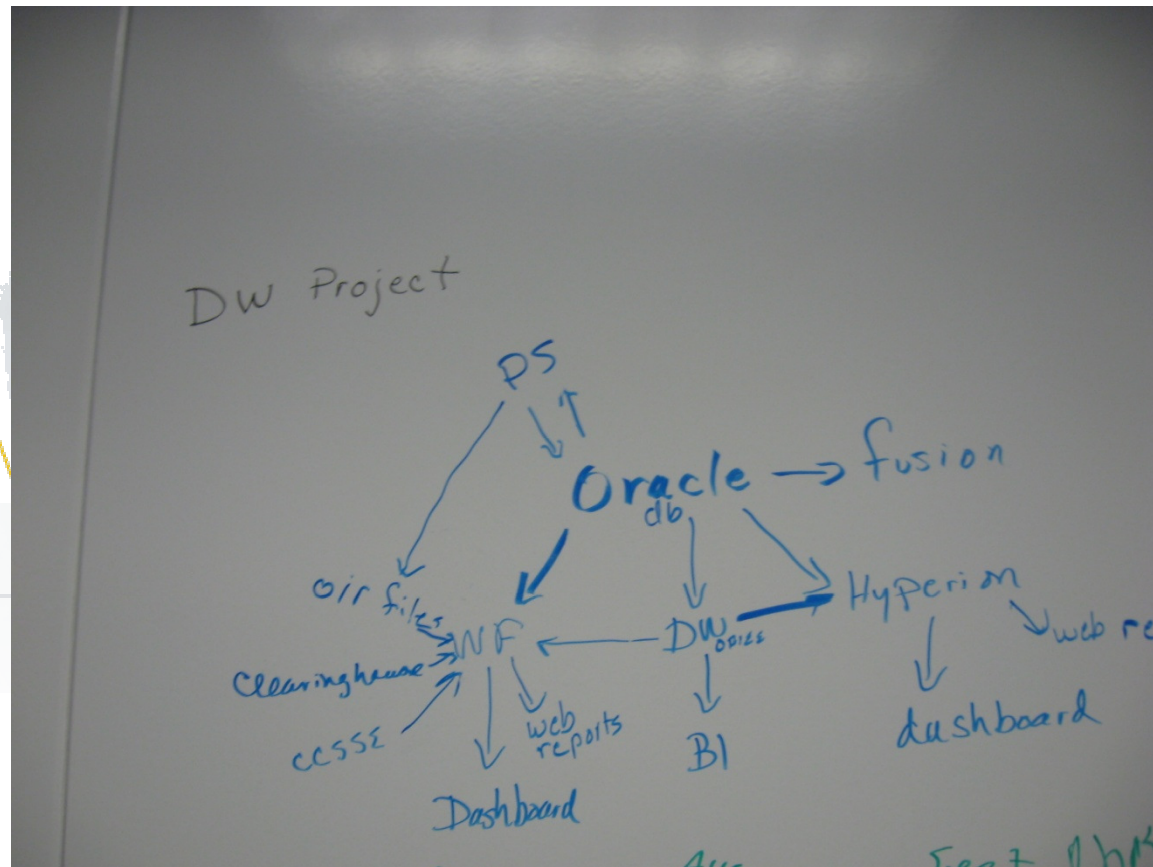
Phase 3: Integration with HCC Intranet (2011)

Phase 4: 2012 Strategic Plan (2012)

Phase 5: QEP dashboard (2012-13)

4. Have a plan





Office Whiteboard

5. Hire great people

Information
Builders



6. Develop partnerships

External

- Information Builders



Internal

- Decisions makers
- Stakeholders
- IR staff
- IT



7. Use the right tools

WebFOCUS

8. Accept help where needed

A word about consultants.....

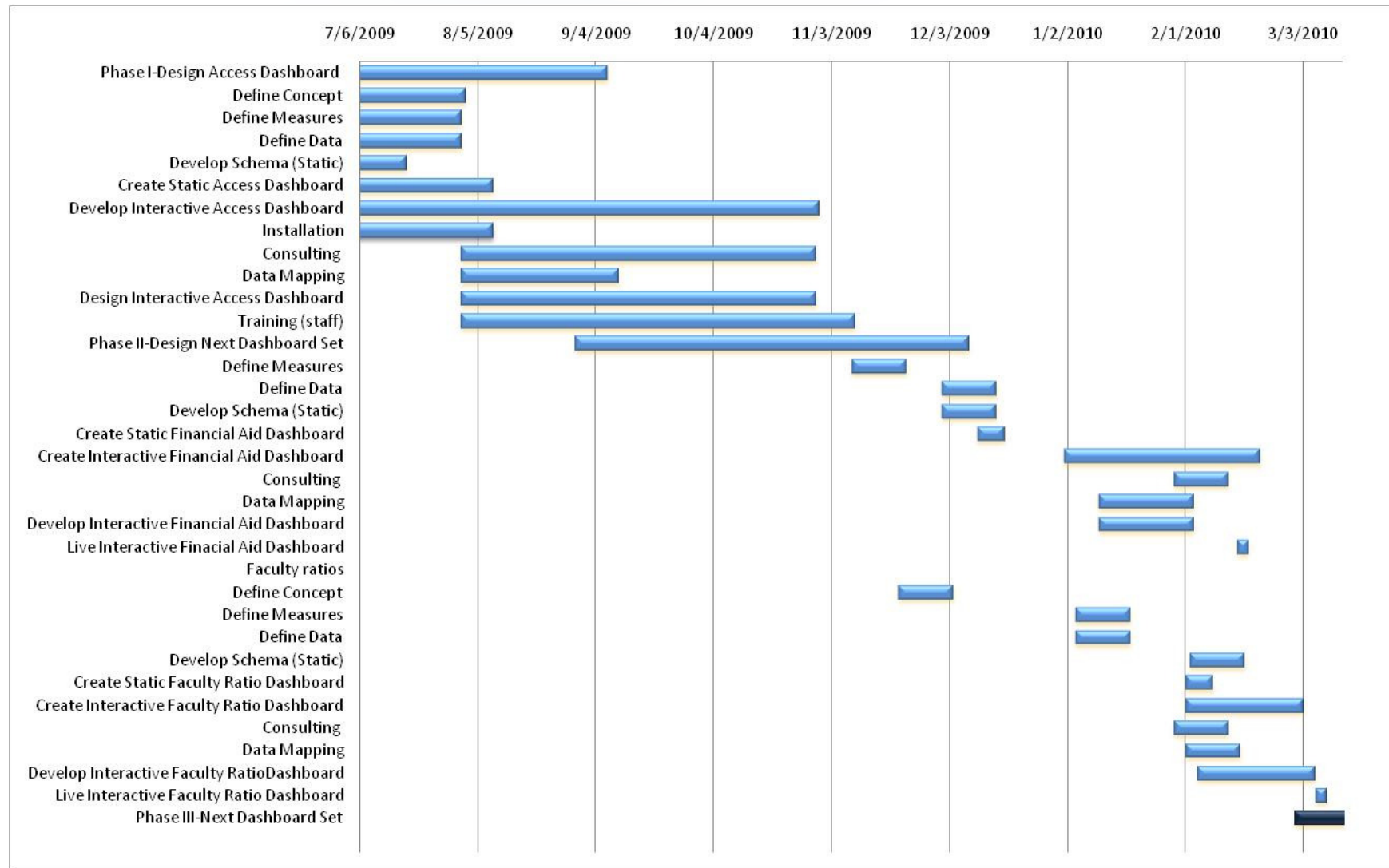


...and training

**Information
Builders**

**Information
Builders**

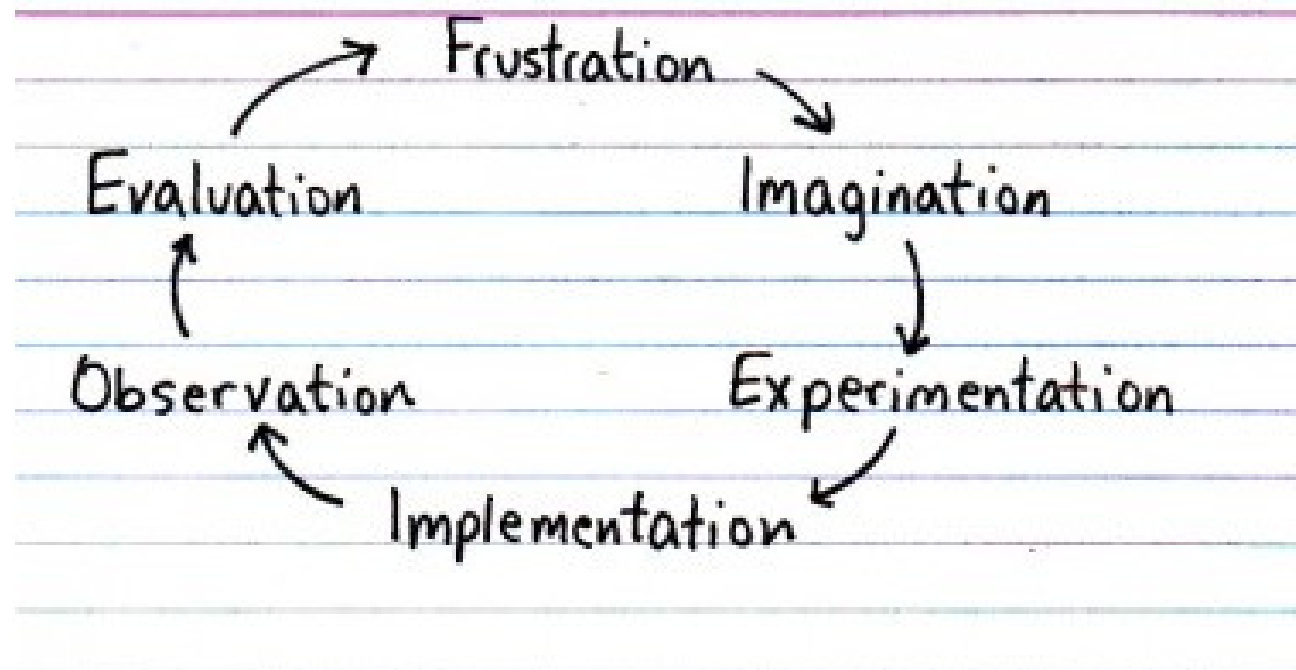
9. Keep on task



10. Monitor progress

How to get unstuck.

Posted on April 14, 2010 by Jessica Hagy



11. Celebrate successes along the way



Public Facing Websites

- *Houston Community College* - www.hccs.edu/hccs/at-a-glance/district-offices/institutional-research/academic-dashboard/academic-dashboard
- *Tarleton State University* - <http://www.tarleton.edu/institutionalresearch>
 - Click on “Texan Facts”
- *Texas A&M University Commerce*
 - <http://www.tamu-commerce.edu/approot/public/irfactbook/>
- *Texas Higher Education Coordinating Board*
 - <http://www.txhighereddata.org/>
 - Link to Tracking Postsecondary Outcomes Dashboard is on the right, 8th entry under High School to College (p-16).
- *Stephen F. Austin State University*
 - http://jackfacts.sfasu.edu/ibi_apps/bid/ac_mpv

Information Builders

Information Management in Higher Education

Information
Builders

track persistence in graphs **financial analysis** alumni on a map
Intuitive interface for functional users **academic dashboards**
mobile **student outcomes**
institutional intelligence consistent definition of a student comparative enrollment
donation trends applicants on a map
tracking transfers **culture of evidence** **predictive analytics**
advancement longitudinal studies **retention analysis**
streamline accreditation **graduation rates** admissions
analysis of state and IPEDS data data-driven decisions cohort tracking
gateway course completion **real-time data integration**
student success **faculty ratios** Key Performance Indicators
360 degree view of students budget tracking
Scorecards for accountability semester credit hours fact book
Integration with Banner, Colleague, Peoplesoft, SAP, etc. institutional research
visual analytics of students enrolled in development courses **financial aid awards**
Integration with Banner, Colleague, Peoplesoft, SAP, etc.

Information Builders In Higher Education

Why Us?



"We can now compare and communicate educational and administrative strategy, monitor and adjust the execution of limited budget dollars effectively, and gain real-time access to critical high-level summary information about the college."

– Bruce Austin

Houston Community College board member

Information Builders' intelligence, integration, & integrity solutions help higher education institutions by:

- Helping You Show **Accountability Toward Your Strategic Goals** with boardroom-quality dashboards & a comprehensive performance management framework.
- Providing **Reporting & Advanced Analytics**, that help empower smarter decision-making across all levels & functions.
- Deploying a Scalable Architecture For Wide-Scale, **Public-Facing Institutional Intelligence** Applications, such as interactive fact books.
- Delivering a **360-Degree View of Students**, faculty, & campuses by unifying diverse data sources

Questions



Coming up on April 2

- Join us for Higher Education Virtual User Forum
 - Taylor University
 - “Student Success Insights From Predictive Analytics”
- Dr. Edwin Welch, Director of Institutional Research / Associate Registrar
 - Will present how predictive analytics is helping his Academic Enrichment Center make better use of its resources.
- He was also featured in an article in Information Week on January 28, “To Avoid Nasty Surprises, Higher Ed Turns to Prediction”



Thank you!

Information
Builders

Tim Beckett
Higher Education Solutions Manager

832-251-5702

Tim_Beckett@ibi.com

See white paper, video interviews, press releases & success stories at www.informationbuilders.com/highered