Development of a Central Information Solution:
Desktop to Enterprise

“READY-SET-ACTION”

PNAIRP - Victoria, CA
November 7th, 2013

Jim DePaepe, Executive Director of Organizational Effectiveness
Dan Matthews, OE Director for Analytics and Research

Live    Learn    Do
This Presentation Will Address:

Why Move To A BI Campus Solution
How BI Design and Development Required Reorganization of IR
Reaching For New Heights in the Transition From IR to OE

Transforming Mini-Mart Desktop Version to BI Data Warehouse
How Reporting Time was Transformed Into Analytics and Research Time
Held Hostage by Reporting?
WHY Move To BI?

WA State and Federal Reports
PCHEES, NSSE, FESSE, COACHES, NSC, WSAC, IPEDS, Performance Funding, *ad infinitum*

Legislative Requests
Internal AD HOC Requests “*another ad infinitum*”

Education’s Annual Reports to WA Standards Board

- PEDS
- Title II
- Completer Table
- Field Experience Table
- PEAB STND 1 Report

- Demographics
- Demographics/ Degree Type
- Endorsements
- Content Assessment Data
- Enrolled By Demographics
- Clinical Experiences
- Working In WA P.S.
AGAIN , WHY ?

Internal Reports

Strategic Planning (Budget Analyses)

Student Learning Outcomes & CTL Annual Report

Workload Plans

Activity Reports / CVs

PTR Submissions

Sabbatical Requests

Post Tenure Submissions
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CWU
Organizational Effectiveness A New Beginning
How Design and Development of BI Required Reorganization of IR

OE’s Two New Arms

CENTRAL INFORMATION SOLUTIONS

ANALYTICS AND RESEARCH
OE Mission

One Truth - On Time - Uncompromised

OE Vision
FUNCTIONS

OE Central Information Solutions Solutions Team

- Data Modeling
- Extraction, Staging, Translations, & Loads
- Query Friendly Technical Support
- CIS Standards Operating Procedures
- CIS Database Administration
- CIS Data Quality & Security Services
- Report Design and Development
- Enhancements & Customizations for Reporting
- Functional Specifications for Reporting
- Systems Analysis & Prototyping of Reports
- Training
- Data Validation and Testing

OE Analytics and Research Team

- Student Retention Study
- Summer Session Study
- Resource Centered Management Study
- Teacher Time Study
- On-line course Study
- Assisting Units with Strategic Plans & Reports
- Document Business Process for Reporting
- Faculty Activity, Workload, and PTR
- All AD HOC Reporting Needs
- Predictive and Comparative Analytics

Subject Specialists

These teams provide operational support in assigned area of responsibility. They work independently from OE and are not assigned to OE, but collaborate regularly with the CIS and AR teams.

- Student Success
- Business and Financial Affairs
- Financial Aid
- Information Solutions
- Associate Provost Office
- Admissions & Enrollment Management
- Registrar
- Colleges’ Associate Deans
- Department Chairs
- Strategic Planning
Developing New Reporting Tools

- Student Retention Model
- Teacher Time Study
- Summer Sessions Study
- Resource Centered Management Model

Building a New Foundation
- New Portal “My CWU”
- SharePoint
- SSRS

Research & Analytics

- ETL
- OLAP
- Data Security
- Data Governance
- Data Definition

Reaching New Heights in the Transition From IR to OE

*Modified from R. Barclay & K. Kodithala (2013)*
Once There Was a Simple Relational Mini-Mart

Data Were Mined From Several Internal and External Sources

- PeopleSoft / Safari
- OSPI S72
- OSPI Cedars
- Drupal
- Pearson
- Qualtrics
- LiveText Education Solutions

CDMS

The CDMS Desktop (Program Coordinator) Version

CDMS Relational Data-Mart

- IPEDS
- Title II Completer Field Exp.
- PEAB

Strategic Plan
SLO Report
CTL Report
3 in 1

7 Accreditations
11 PESB annuals
Transforming Mini-Mart Desktop Version to Business Intelligence

- Faculty 180
- CE Data-base
- PeopleSoft / Campus
- PeopleSoft /Finance
- PeopleSoft /HR
- Qualtrics
- Pearson
- OSPI Cedars
- OSPI S72
- LiveText Education Solutions
- ODBC - ETL
- ThCIS Data Warehouse
  - Data-Mart
  - OLAP Reporting
  - Dashboards
- Center For Teaching and Learning
- CDMS Mini-Mart
- Student Data-Mart
- Faculty Data-Mart
- Finance Data-Mart
Data Staging
Data Loading
Data Transformation

Extraction Process

PS/Student
Data capture ODBC w/ SSIS

PS/Faculty
Data capture ODBC w/ SSIS

PS/Financial
Data capture ODBC w/ SSIS

Flat Files

Student Data Marts
Faculty Data Marts
Finance Data Marts

OLAP
Cubes Stars Snowflakes

SQL QUERY

SharePoint Portal

Excel

SSRS
Data Reporting

ODBC w/ SSIS
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Aggregate
The sum of all students in all four colleges in 2012-2013 Academic Year.
Trend Data for Native American enrollment in all four Colleges over the six Academic Years.
LESSONS LEARNED

• A BI solution is critical for connecting disparate databases in the institution.

• Data Definitions, Data Governance and Security are critical first steps.

• Deeper analytics - predictive and comparative modeling provides OE Mission Critical Value
What’s Next?
Mobile Dashboards