Student Success Today and Tomorrow

Alan Amory and Jenny Glennie
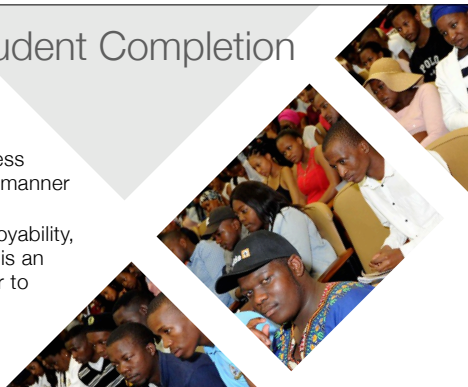
Saide
Enabling successful
open learning for all

Success as a key open learning

"The construction of learning programmes in the expectation that learners can succeed."
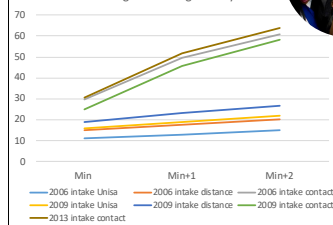

Student Completion

While student success defined in a holistic manner to include graduate attributes and employability, student completion is an essential contributor to student success

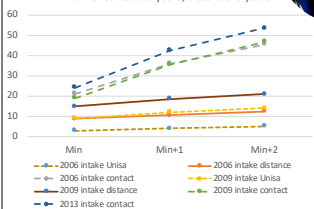---

Throughput Rates

Undergraduate Degrees: 3 years

Improvements needed

Increase in distance throughput in M+1 and M+2

Reduction of gap between distance and contact throughput

Reduction of gap between Unisa and all distance throughput

2006 intake Unisa — 2006 intake distance — 2006 intake contact
2009 intake Unisa — 2009 intake distance — 2009 intake contact
2013 intake contact

Throughput Rates

Undergraduate Diplomas: 3 years
Min time: contact: 3 years; distance: 6 years

Improvements needed

Increase in distance throughput in M+1 and M+2

Reduction of gap between distance and contact throughput

Reduction of gap between Unisa and all distance throughput

2006 intake Unisa — 2006 intake distance
2009 intake distance — 2009 intake Unisa
2009 intake distance — 2009 intake contact
2013 intake contact

Throughput Rates by Group

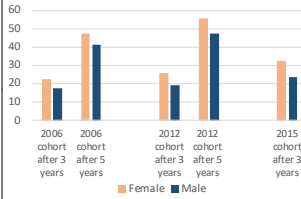Undergraduate 3 year qualification
By group: contact and distance
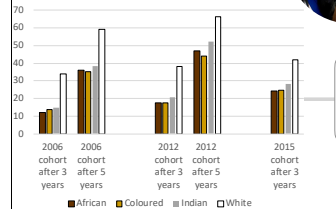
Over time

Each cohort subgroup improved

Gains between M and M+2 substantial and grown

Differences among groups diminishing

2006 cohort after 3 years | 2006 cohort after 5 years | 2012 cohort after 3 years | 2012 cohort after 5 years | 2015 cohort after 3 years

African | Coloured | Indian | White

Throughput Rates by Gender

Undergraduate 3 year qualifications
By gender: contact and distance

Chart categories: 2006 cohort after 3 years, 2006 cohort after 5 years, 2012 cohort after 3 years, 2012 cohort after 5 years, 2015 cohort after 3 years
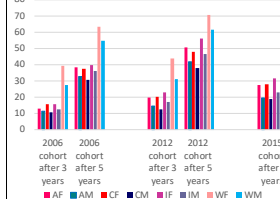Legend: Female, Male

Over time
Females have always done better (5.3 percentage points for 2006 cohort after 3 years)
Gap growing (9 percentage points for 2015 cohort after 3 years)

Throughput Rates by Group and Gender

Undergraduate 3 year qualifications
By group and gender: contact and distance

Chart categories: 2006 cohort after 3 years, 2006 cohort after 5 years, 2012 cohort after 3 years, 2012 cohort after 5 years, 2015 cohort after 3 years
Legend: AF, AM, CF, CM, IF, IM, WF, WM

Over time
Difference between highest and lowest around 30 percentage points for each point
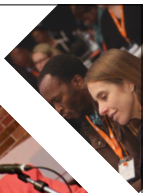African and Coloured males cause for concern

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Improvements Needed

Throughput in **minimum time**, M+1 and M+2 for degrees and especially diplomas
Eliminating **gender differences**
Eliminating **group differences**

Siyaphumelela

An initiative to improve student success through the use of data

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Siyaphumelela - Background

Over the past **five years** the **Kresge Foundation** funded the Siyaphumelela initiative in South Africa that included **five universities**.

To **improve** student success through **exploring** the use of **data analytics** to improve institutional **capacity** to **collect and analyse** student data.

Siyaphumelela - Background

1. Create **South African models** of universities using successful data analytics.

2. Create **greater awareness** and **support** for **evidence** for support and planning.

3. Create and highlight a **shared vocabulary** and consensus on especially effective practices.

4. Enlarge the cadre of **experienced institutional researchers** versed in data analytics.

Siyaphumelela 2015-2019: Culture

Greater **recognition** to the importance of student success at the **five partner institutions** and **nationally**.

All institutions

The five Siyaphumelela universities have **student success** as **one** of their **strategic objectives**.

Siyaphumelela 2015-2019: Culture

Greater **recognition** to the importance of student success at the **five partner institutions** and **nationally**.

DHET

University Capacity Development Programme includes **reporting** of **student success indicators**.

Siyaphumelela 2015-2019: Culture

Development of **evidence-based decision-making** processes for **leadership**, and **faculty management**.

Wits

South African School Administration and Management System

Institutional Student Background Questionnaire

→ Integrated dataset ←

Classic cohort and throughput analysis supplemented with Bayesian Models

Comprehensive data on each student's background **informs reporting** to University Management Structures and **supports** University **planning**.

Siyaphumelela 2015-2019: Culture, Data and Tools

Inter- and intra-**collaboration problem-solving**, sharing of **techniques**, development of **joint projects** and **social capital** and **trust**.

Wits and UP

What-if Scenarios: **Bayesian network** modelling and **Tableau dashboard**.

Siyaphumelela 2015-2019: Data and Tools

Creation of instruments to support student success initiatives

South African data dictionary

Templates for ethical use of data

South African version of the Institutional Capacity Assessment Tool

SASSE useful to the initiative

Siyaphumelela 2015-2019: Culture, Data and Tools

Develop, implement and use of **student tracking** tools.

NMU and DUT

RADAR

AutoScholar

Siyaphumelela 2015-2019: Culture, Data and Tools

DHET supports two initiatives
Development of Student Advisors
Development a national warehouse to integrate data

Siyaphumelela 2015-2019: Policies and Practices

Development of **institutional policies** aligned to **student success strategic goals**

Promulgation of **student success indicators** as a **reporting requirement** on the UCDP grants (DHET Policy)

Student tracking systems necessitate **changes** in **institutional policies**

Recent Development

USAf Meeting of Vice Chancellors in November 2018
Vision: "Make Student Success the Norm"

Meeting Recognised

Huge **diversity** in the university system across **history, geography, size** and **make up** of student bodies, **availability** of **financial** and **human resources**.

Some universities have already **embarked** on **student success interventions**.

And Proposed Three Goals

1 **Improve throughput rates** across the three categories of STEM, Economic and Management Sciences and Humanities.

2 **Reduce (eliminate) achievement gaps** across gender, race and income levels.

3 **Construct an inclusive, conducive and enabling student experience**, and work environment.

Using the Following Principles

1 Informed by a **social justice agenda** of access, inclusion and success.

2 Student success defined in a **holistic manner** to include **graduate attributes** and **employability**.

3 Students **no longer labelled** as **at risk** students or **underprepared** students.

4 Commitment to **sharing** substantively **across the system** on student success initiatives, with some **emphasis on geography**.

Student Success Framework

A holistic approach is needed to transform institutions to support student success

Institutional Capacity Assessment Tool

Participation

In groups, evaluate the ICAT tool and make recommendations how the instrument could be adapted for distance education institutions.

For Distance Education

Considering
Throughput in **minimum time** and M+1 for degrees and especially diplomas
Eliminating **gender differences**
Eliminating **group differences**

Two components of particular importance for distance students
Learning design
Student journey

Learning Design

Construction

Learning Design - Dave's Story

Background
- Invitation to save a mountain stream
- Groups undertook projects

Learning Design - Dave's Story

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Project participation
- Collected useful data
- Acted as a peer tutor
- Taught teachers and peers about science
- At the presentation day he discussed science

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- "On task" for only short periods of time
- Could not draw graphs
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Explanation A

Learning Design - John Seely Brown's Story

Background
- Employed by Xerox
- Guru in artificial intelligence
- Investigation

When John Seely Brown arrived at Xerox he discovered Xerox was spending many millions of dollars a year training tech reps on how to repair their office equipment such as copiers and printers. Xerox wondered if he could use any of these sophisticated artificial intelligence tools to enhance the ability of their tech reps to learn similar troubleshooting skills more cost effectively. This could be a substantial opportunity for Xerox since it has 21,000 tech reps around the world. What he did was to first hire some anthropologists.

Anthropologist's report: First of all, what happens is whenever a tech rep gets stuck he calls in another tech rep and then, standing around the problematic machine, they start to weave a story, a story that starts to explain some of the particular symptoms of the machine. And then some fragment of the initial story reminds them of something else which suggests a few more measurements to make, which in turn produces some more data that reminds them of another fragment of a story, and so on. Troubleshooting for these guys is really just weaving together a narrative, a narrative that eventually explains all the symptoms and test data of this machine. And when they have made sense of all the data, the narrative is finished and the machine is diagnosed.

Conclusion: Troubleshooting is really story construction, not abstract logical reasoning.

Learning Design - John Seely Brown's Story

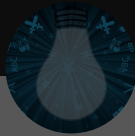| Background |
|---|
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Learning Design - John Seely Brown's Story

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Solution
Build a LMS for technician training?
Present workshops to improve technicians' skills?
Build a community of practice using always on two-way radios and a social network web site?

Learning Design - John Seely Brown's Story

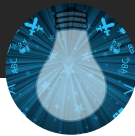| Background |
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T

Learning Design - Thato's Story

Background
Play a video game to overcome misconceptions
School children in northern KwaZulu-Natal

Learning Design - Thato's Story

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Game play
Solved all the puzzles
Overcame misconceptions?

Learning Design - Thato's Story
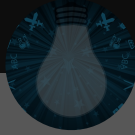
Background
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Game play
Solved all the puzzles
Overcame misconceptions?

Another group
Played in pairs
Discussed puzzles and measurement instrument
Overcame most misconceptions

Learning Design - Thato's Story

Background
Play a video game to overcome misconceptions
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Solved
Overca[...]

C
Explanation

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Learning Design - Tasks and Technology

Social Collaboration — C

Authentic Activity — A

Tool (Technology) Mediation — T

Learning Design - Tasks and Technology

C   A   T

Authentic tasks
- Real-world relevance
- Ill defined
- Complex activities
- Collaboration
- Reflection
- Authentic assessment
- Polished products
- Competing solutions

Role of technology
- As information stream
- As enabler of communication
- As enabler of collaboration
- As an information transformation tool
- As a professional tool
- As extrinsic mediator

Learning Design - Tasks and Technology

C   A   T

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Learning Design - Framework

1

Geographical distribution of teachers and students

Face to face   Mixed mode or Blended   Distance education
On campus   Off campus
No digital support   Digitally supported   Internet-supported   Internet-dependent   Fully online

Offline   Online

Framework: Instruction versus Mediation

2

ICT in education
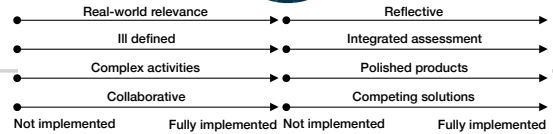
Instructive   Cognitive   Mediative

Framework: Outcomes

3

Bloom's modified taxonomy

Remember   Understand   Apply   Evaluate   Create

Framework: Authentic Learning Tasks

4

Real-world relevance	Reflective
Ill defined	Integrated assessment
Complex activities	Polished products
Collaborative	Competing solutions

Not implemented   Fully implemented   Not implemented   Fully implemented

Student Support

Construct an inclusive, conducive and enabling student experience

HOLISTIC STUDENT SUPPORTS DESIGN

Student Support - Introduction

Student Support - Introduction

Student Support - Two Examples

Georgia State University
Top-down approach
Student advisors
Integrated student services

Portland State University
Bottom-up approach
Design thinking
Integrated student service

Student Support - Core Design Principles - SSIPP

1 **Sustained**
Students supported throughout their full journey, particularly at key momentum points.

Student Support - Core Design Principles - SSIPP

2 **Strategic**
Students efficiently connected to the specific supports they need, when they need, using appropriate delivery mode.

Student Support - Core Design Principles - SSIPP

3 **Integrated**
Students seamlessly connected to information, resources and services without being bounced around.

Student Support - Core Design Principles - SSIPP

4 **Proactive**
Students connected to supports at the first sign of trouble, not after a situation builds to a crisis point.

Student Support - Core Design Principles - SSIPP

5 **Personalized**
Based on the insights emerging from meaningful staff-student relationships, each student receives the type and intensity of support appropriate to their unique and diverse needs.

Student Support - Key Institutional Practices

1 **Structural change** occurs when **policies, structures** and **procedures** create a framework for **new behaviours** that **improve** the student **experiences** throughout the institution.

Student Support - Key Institutional Practices

Process change alters how people **do their job** and is **transformative** when enough individuals **change** their practices to ensure that large numbers of **students encounter new student support interactions**.

2

Student Support - Key Institutional Practices

Attitudinal change occurs when **individuals understand** their work and view work processes in **new ways** and it is **evident** when **academic and non-academic supports** are naturally and commonly **understood**.

3

Moving Forward

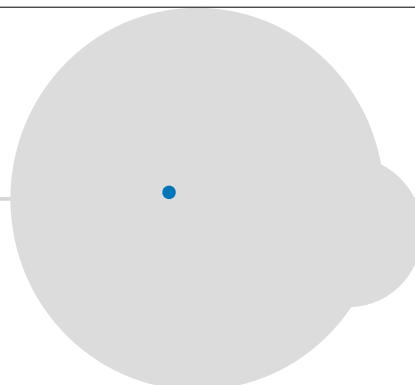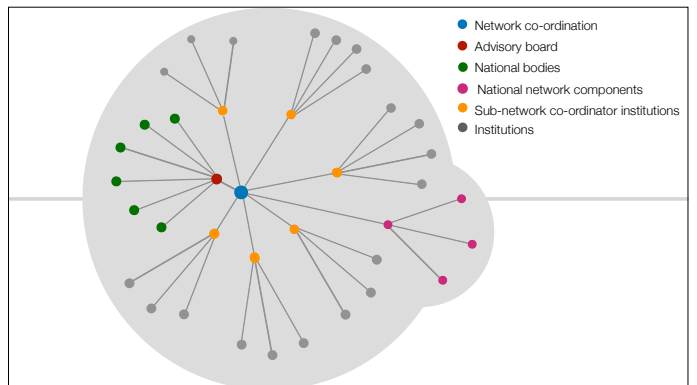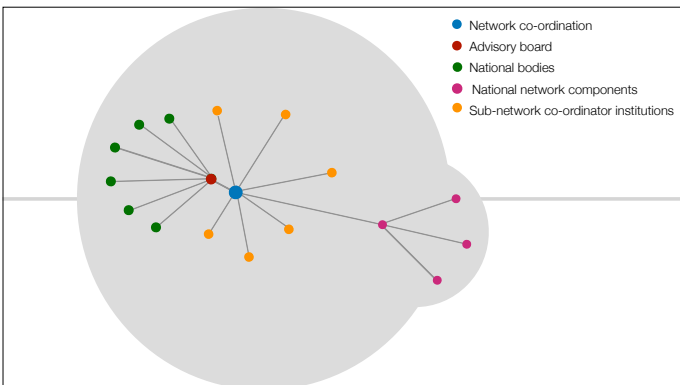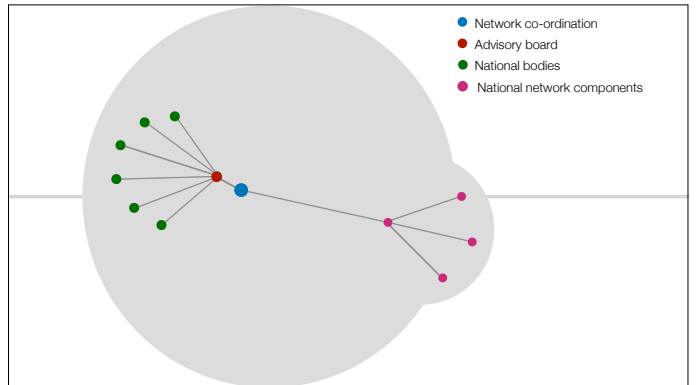Building on expertise, tools and insights developed over the past five years
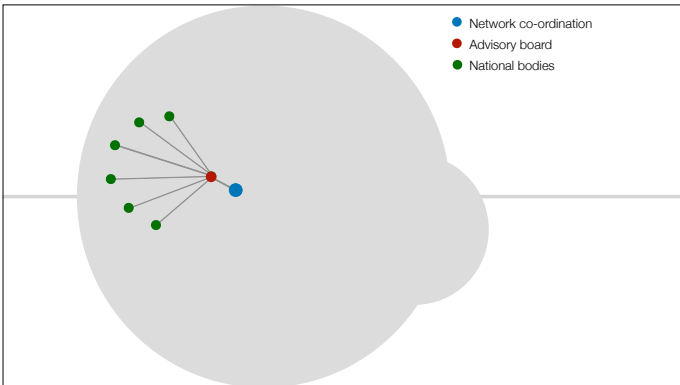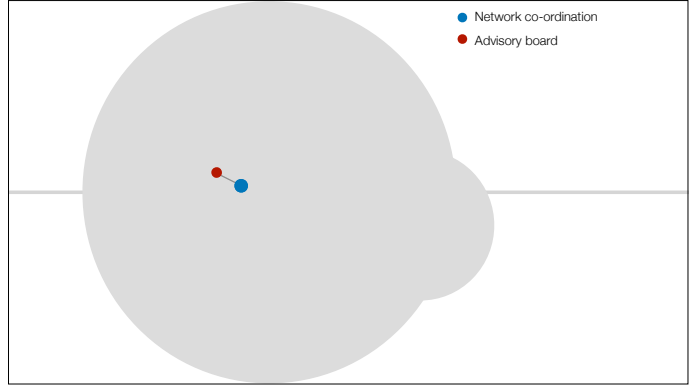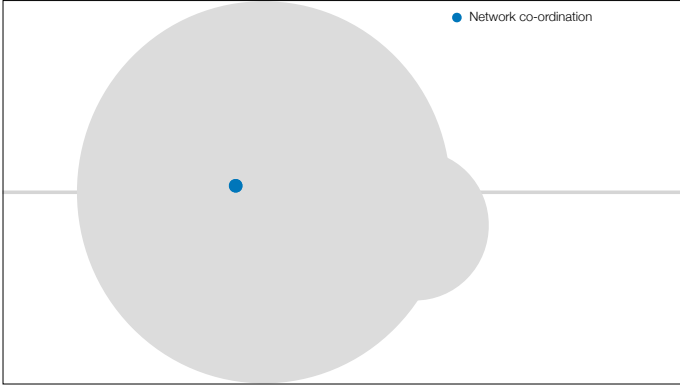
Concept

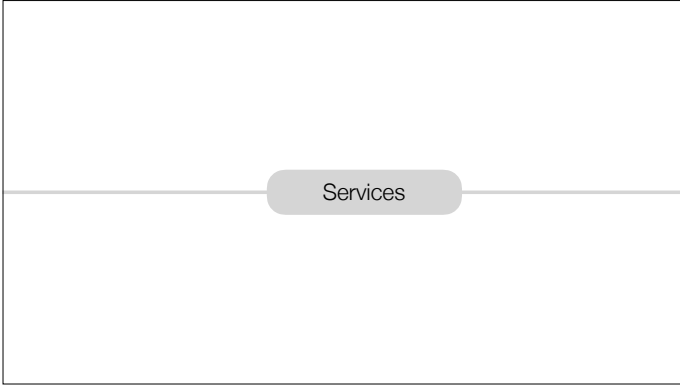A system to provide support to student success to **all** Higher Education Institutions

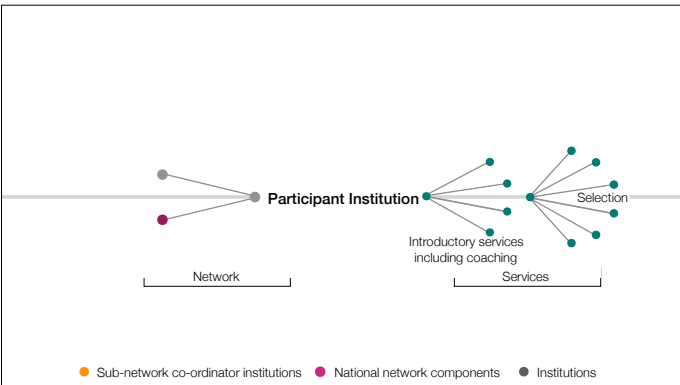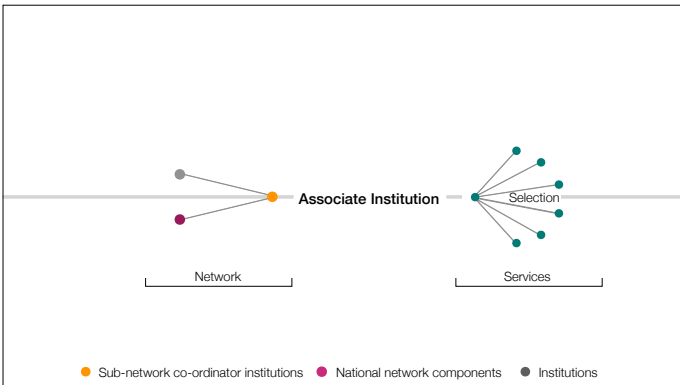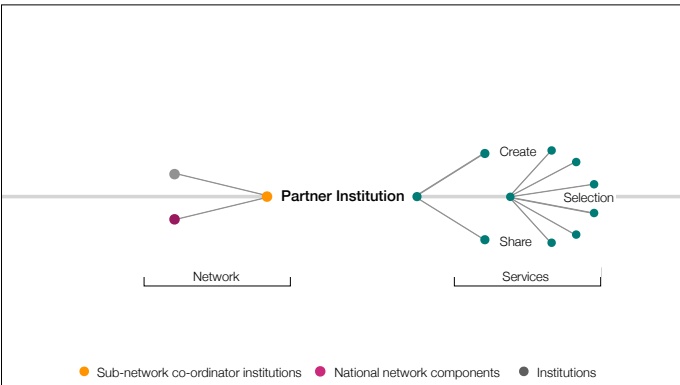**Two components**: regional and national **networks** and integrated **services**

Networks

Services

Data and Tools

Develop, implement and use **student tracking tools**

Use **AutoScholar**, a tool designed for the tracking of student progression

Design or adapt, develop, implement and use **institutional dashboards** for institutional management and to student support services

Use and adapt dashboards designed for the **integrated educational warehouse**

Use **data coaching and advising** at the institutional level

Explore national integrated **data warehouse** to support cohort and research

Use **SASSE** to better understand high-impact experiences and student behaviours that influence teaching and learning

Student Engagement

Develop **student advisors**

Redesign with **Holistic Student Support Services**

Use student **case management** software

Institutional Development

Develop and use South African cohort of **coaches**

Use the **Institutional Capacity Assessment** tool to identify institutional strengths and weaknesses

Implement policies for **ethical data use**

Use **Improvement Science** as an evaluation framework

Use **design thinking** to redesign processes

Develop skills in **design based research**

Develop **university leadership**

Levels of Participation

Partner Institution

Network

Services

Create
Selection
Share

● Sub-network co-ordinator institutions ● National network components ● Institutions

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Associate Institution

Network

Services

Selection

● Sub-network co-ordinator institutions ● National network components ● Institutions

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Participant Institution

Network

Services

Selection

Introductory services including coaching

● Sub-network co-ordinator institutions ● National network components ● Institutions

Thank you
Support Student Success

Saide
Enabling successful
open learning for all