



MONASH  
University

EDUCATION  
**FUTURES**

# Learning Analytics in Higher Education is about Embracing Complexity

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 **SHEILA**  
<http://sheilaproject.eu/>

Current state

# Understanding & supporting learning

Moving away from deficit models

Our institution is in  
early days of adoption

# **ADOPTION CHALLENGES**

# Current state – Oz and Europe



<http://he-analytics.com>



<http://sheilaproject.eu/>

# Adoption challenge

## Leadership for strategic implementation & monitoring

# Adoption challenge

Equal engagement with  
different stakeholders

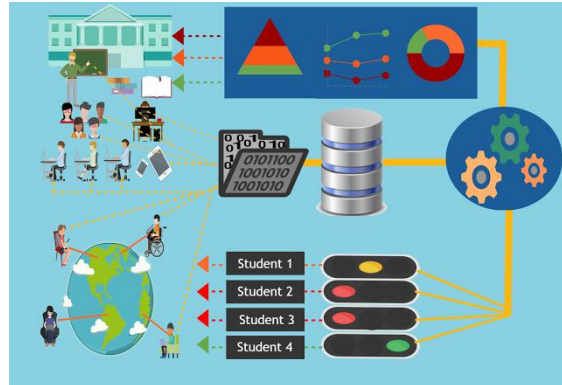
# Adoption challenge

## Policies for learning analytics practice

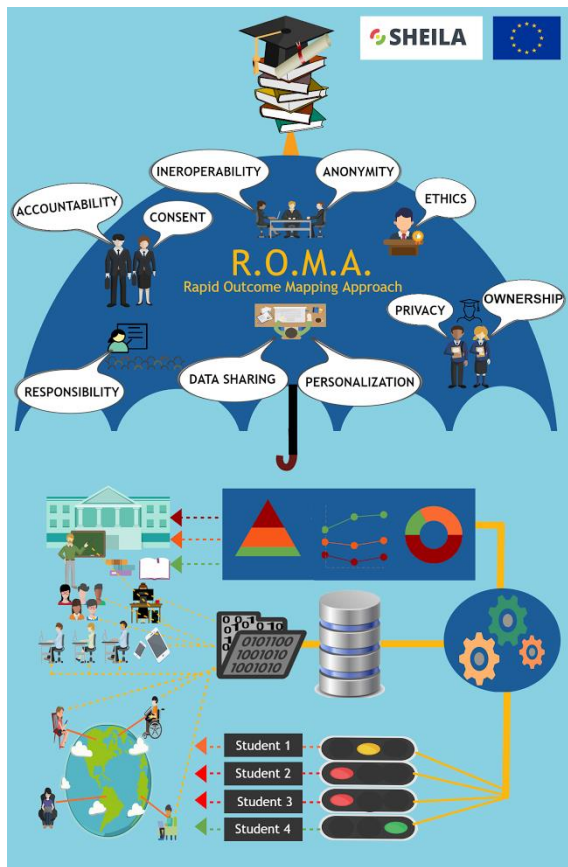


# **DIRECTIONS**

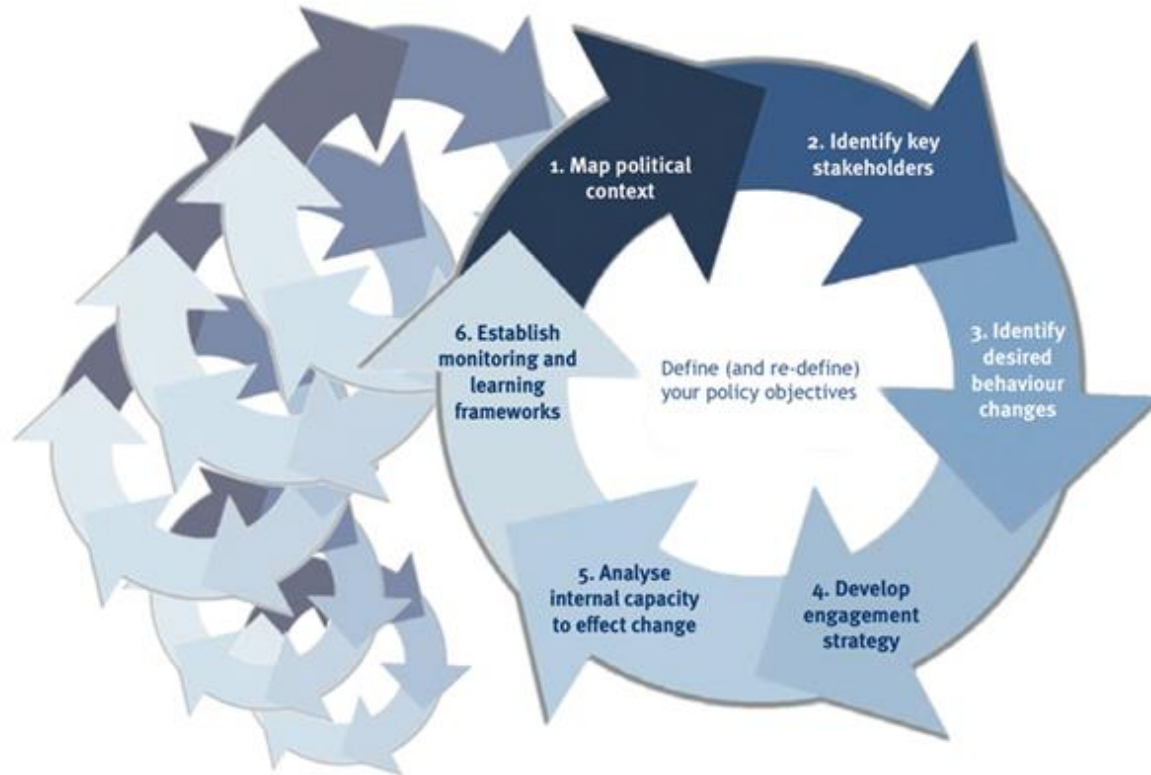
# Inclusive adoption process



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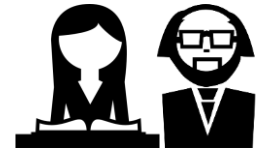
# Methodology



Literature  
- Policy  
- Adoption



Students  
- Survey  
- Focus groups



Academic staff  
- Survey  
- Focus groups



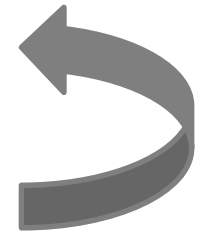
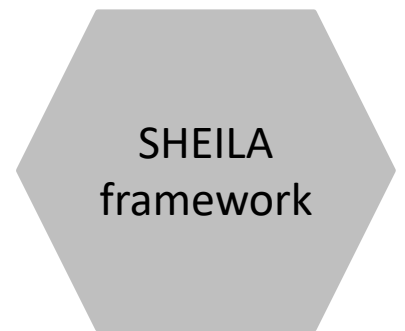
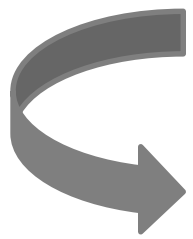
Senior managers  
- Survey  
- Interviews



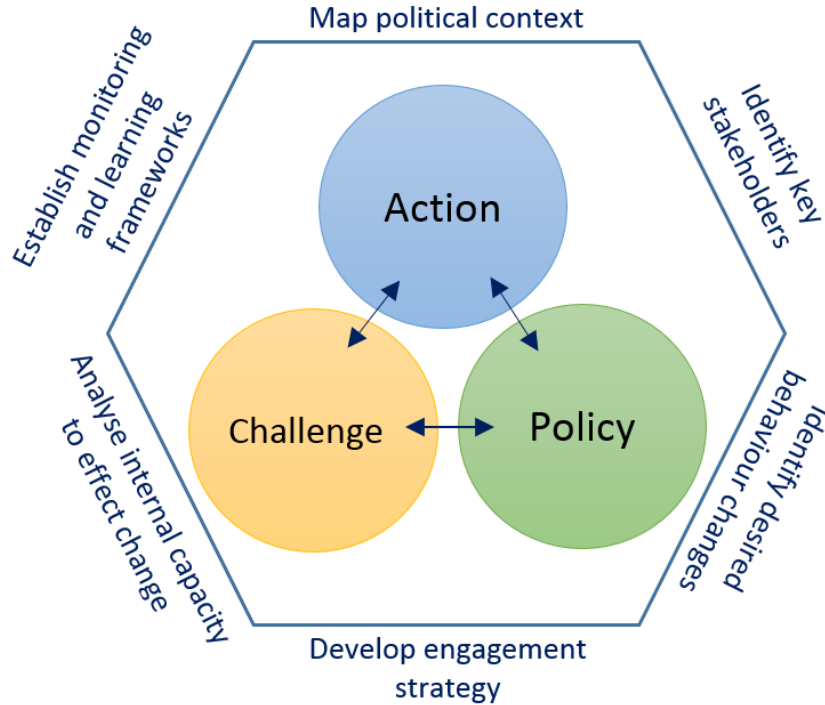
Experts  
- Group concept mapping



Other stakeh.  
- Workshops  
- Committees



# SHEILA framework

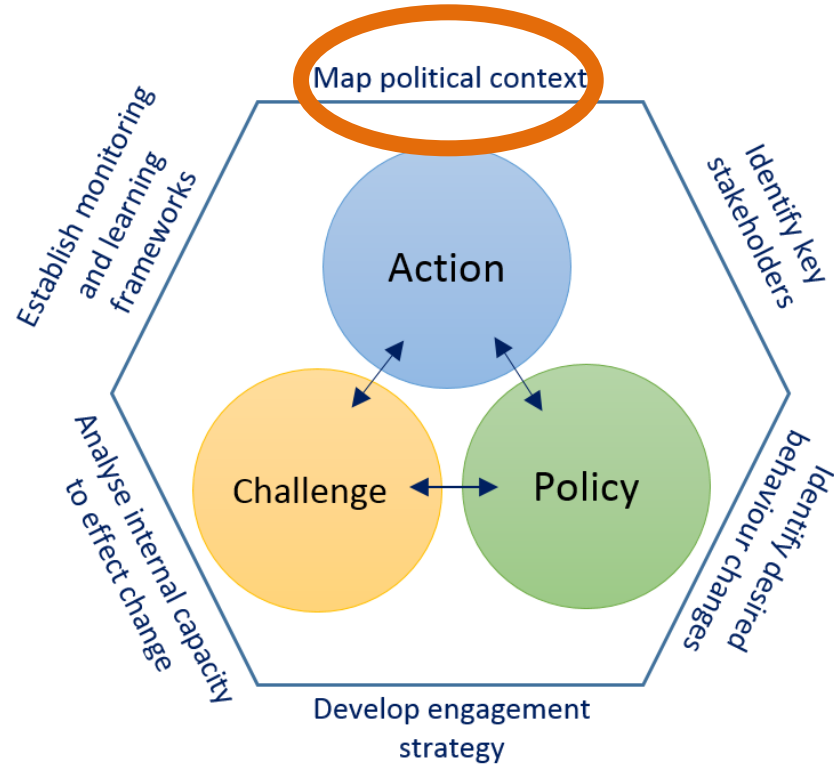




# SHEILA framework

Dimension 2 – Identify key stakeholders		
ACTION	CHALLENGES	POLICY
<p><i>Stakeholder engagement</i></p> <ul style="list-style-type: none"> <li>Identify primary users of learning analytics (e.g., students, teaching staff, and senior managers).</li> <li>Identify senior management team (e.g., vice-chancellors, principals, provosts).</li> <li>Identify professional teams (e.g., IT, legal team, strategy team, Student Support, Student Registry, library).</li> <li>Identify academic teams (e.g. Learning &amp; Teaching committee, Digital Learning Committee, research project teams)</li> <li>Identify external partners (e.g., researchers and service providers)</li> <li>Identify internal advocates of learning analytics among members of faculties (bottom-up approach).</li> <li>Identify required expertise (e.g., learning analytics expertise, IT expertise, statistical expertise, educational expertise, psychological expertise)</li> </ul>	<p><i>Ethics &amp; privacy</i></p> <ul style="list-style-type: none"> <li>Risk marginalising hard-to-reach students by drawing a distinction between students who opt out and those who opt into a learning analytics service.</li> <li>The choice of opt-out or not opt-in could affect those who choose to opt in regarding the quality of data and services provided.</li> <li>Data sharing (particularly with external parties) requires a careful check of security issues and breaches of privacy.</li> </ul> <p><i>Management</i></p> <ul style="list-style-type: none"> <li>Define ownership and responsibilities among diverse professional groups within the university.</li> </ul>	<p><i>Data management</i></p> <ul style="list-style-type: none"> <li>How will consent be obtained and when?</li> <li>What are the circumstances where obtaining further consent is necessary?</li> <li>Is there an option to opt-out of (or opt into) any data collection and analysis? When will the option be available?</li> <li>Will students have a free choice of whether or not to accept interventions based on analytics?</li> <li>Who can access data?</li> <li>Who owns data?</li> <li>How will anonymity policy be applied to the processing and presentation of data?</li> <li>Can collected data be edited or deleted upon request?</li> <li>Will data be shared with researchers?</li> <li>Will data be shared with external parties? Is it justifiable?</li> <li>Who is the data controller?</li> </ul> <p><i>Methodology</i></p> <ul style="list-style-type: none"> <li>Whose data will be collected?</li> </ul> <p><i>Stakeholder engagement</i></p> <ul style="list-style-type: none"> <li>Who is the policy for? Whose working activities will the policy shape?</li> </ul>

# SHEILA framework

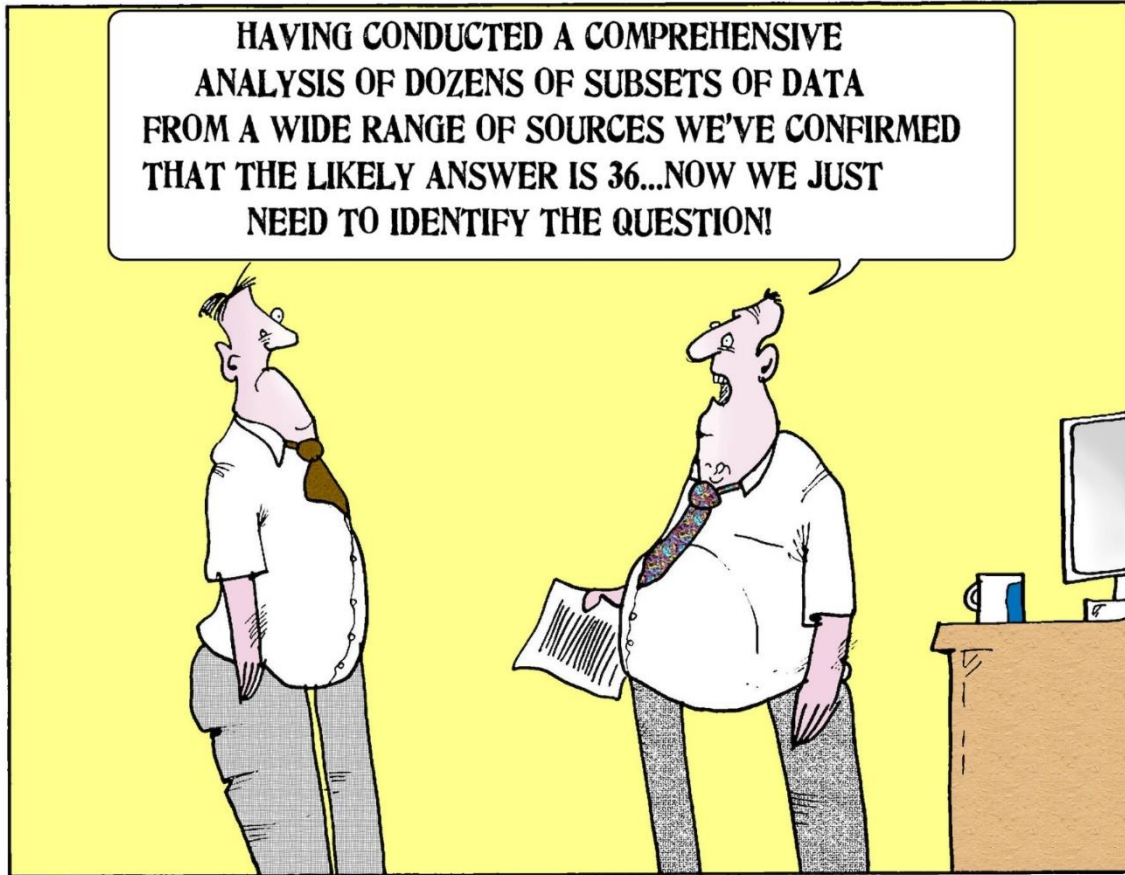




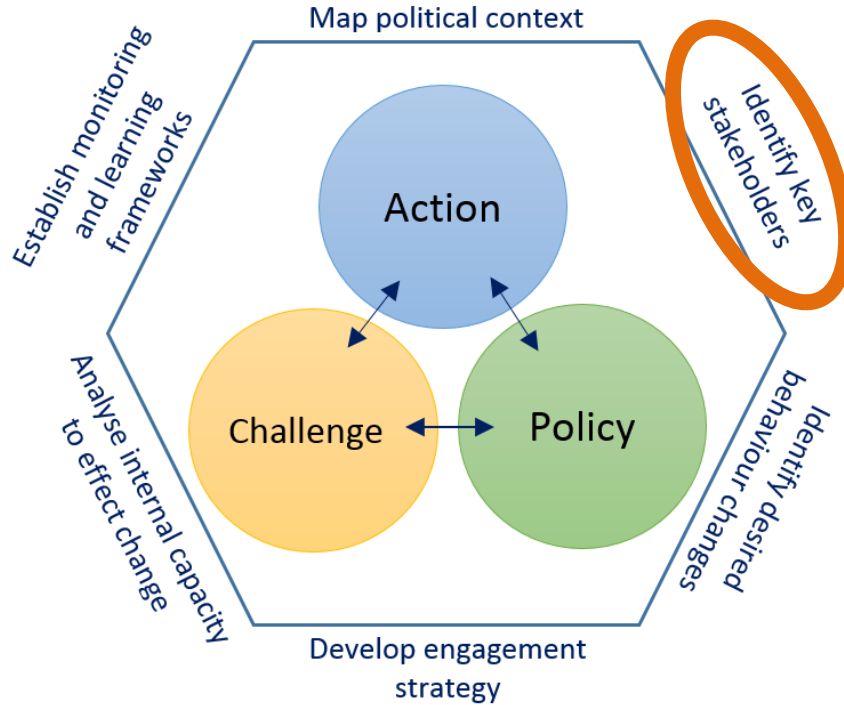
Map political context

Internal and external drivers for  
learning analytics adoption

**HAVING CONDUCTED A COMPREHENSIVE  
ANALYSIS OF DOZENS OF SUBSETS OF DATA  
FROM A WIDE RANGE OF SOURCES WE'VE CONFIRMED  
THAT THE LIKELY ANSWER IS 36...NOW WE JUST  
NEED TO IDENTIFY THE QUESTION!**



# SHEILA framework



Identify key stakeholders

The project sponsor on  
the senior management team

## Students' perspective

Students expect the use of their data provided ethics & privacy is assured

## Students' perspective

Do we have legitimate interests for use?

Cross-country differences in student expectations

Teaching staff's perspective

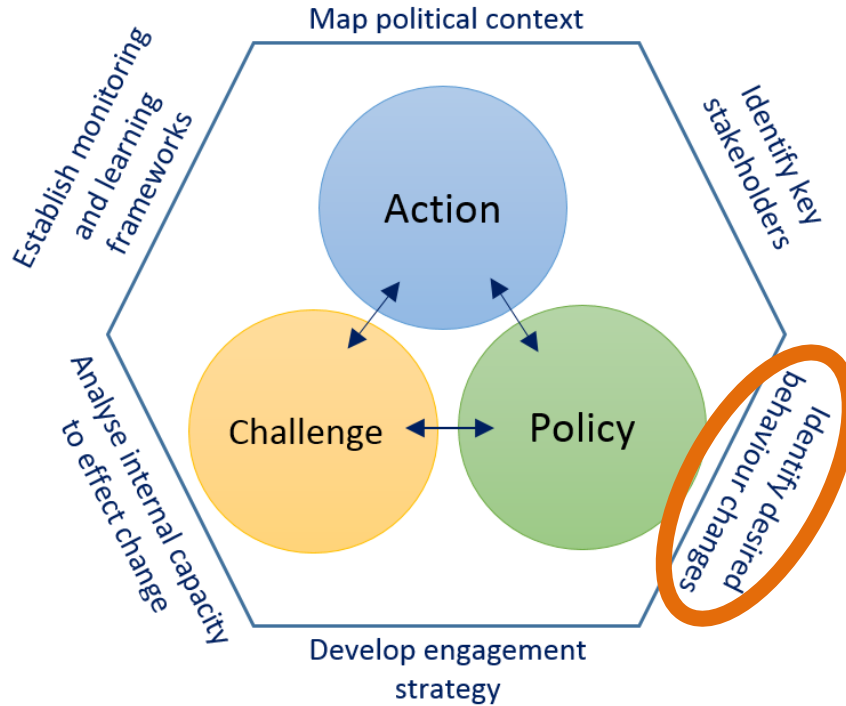
Concerned about their workload

Experts' perspective

Purpose, ethics, and privacy need to  
be addressed first



# SHEILA framework



Identify desired behavior changes

Identify areas where decisions will be  
informed by learning analytics

Define implications for primary users

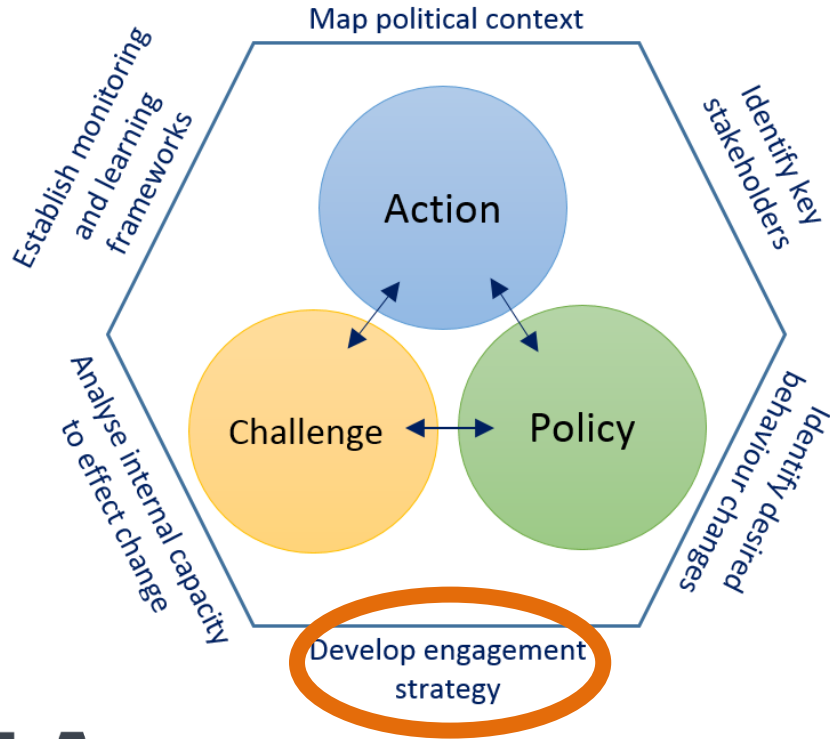
Dashboards can be harmful

# Define implications for primary users

## Dashboards can be harmful

### Can lower GPA

# SHEILA framework



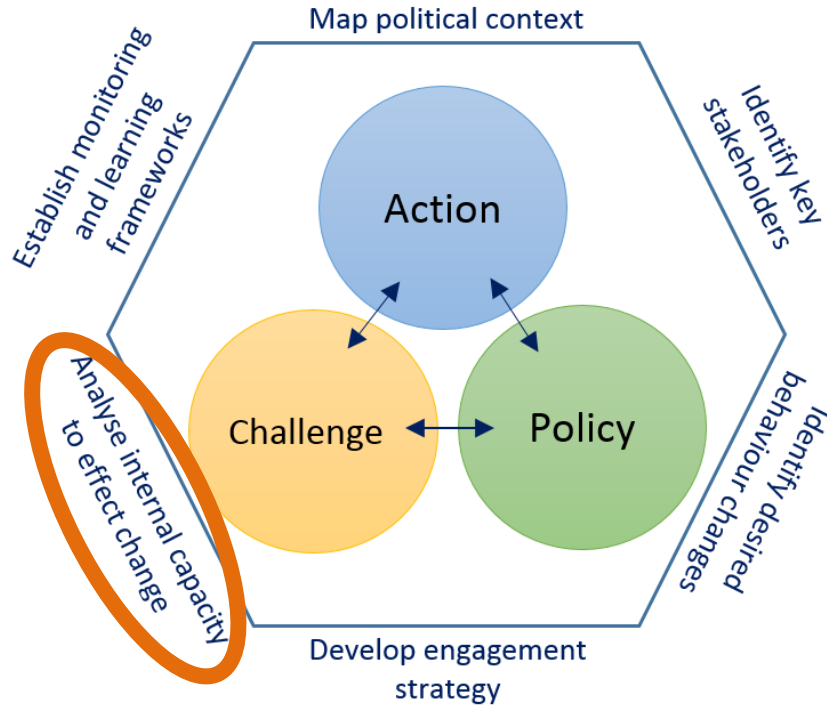
Develop engagement strategy

Alignment of learning analytics with  
the wider institutional strategies

Develop engagement strategy

How interventions will be triggered  
and who is responsible?

# SHEILA framework





Analyze internal capacity

Data storage, disposal, integration,  
and security evaluation

Analyze internal capacity

Human, financial, and  
infrastructural capacity

Analyze internal capacity

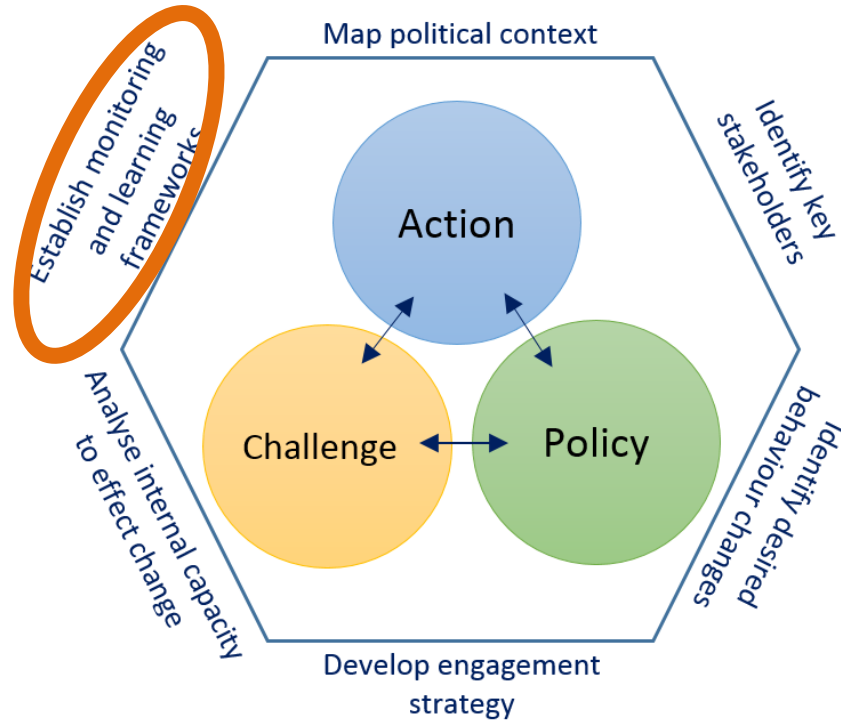
Evaluate institutional culture

Trust in data

Decision-making based on data

Openness to changes and innovation

# SHEILA framework



Establish monitoring & learning frameworks

Highly immature and  
few actual examples

Establish monitoring & learning frameworks

Establish quantitative and qualitative  
indicators of success

Stage the process to recognize institutional development

Establish monitoring & learning frameworks

Isolating the effect of learning analytics  
against other initiatives

# EPILOGUE





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# Learning analytics principles

Incomplete data and human involvement

Transparency of data collection, use, and sharing

Good governance as the core of the approach



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# Learning analytics principles

Avoiding deficit models to address needs of all learners

Algorithms can perpetuate bias

Learning analytics not used to monitor staff performance



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# Learning analytics purposes

Quality, equity, personalized feedback, coping with scale,  
student experience, skills, and efficiency



## Learning Analytics Policy Development

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Reading Time: 4 minutes

I wrote this up in a short brain dump to share with some colleagues internally recently, but since our [Learning Analytics Principles and Purposes policy](#) has now been re-published with a CC license, I thought it might be worth sharing some of the back story of it's development to aid anyone thinking about how

# **FINAL REMARKS**

Embracing complexity of  
educational systems

Critical role of leadership for adoption  
of learning analytics

Development of culture for  
data-informed decision making



# Sign up for the SHEILA MOOC

Launch with edX planned in late November 2018



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