Embracing the academic change caused by the proliferation of generative artificial intelligence chatbots in higher education
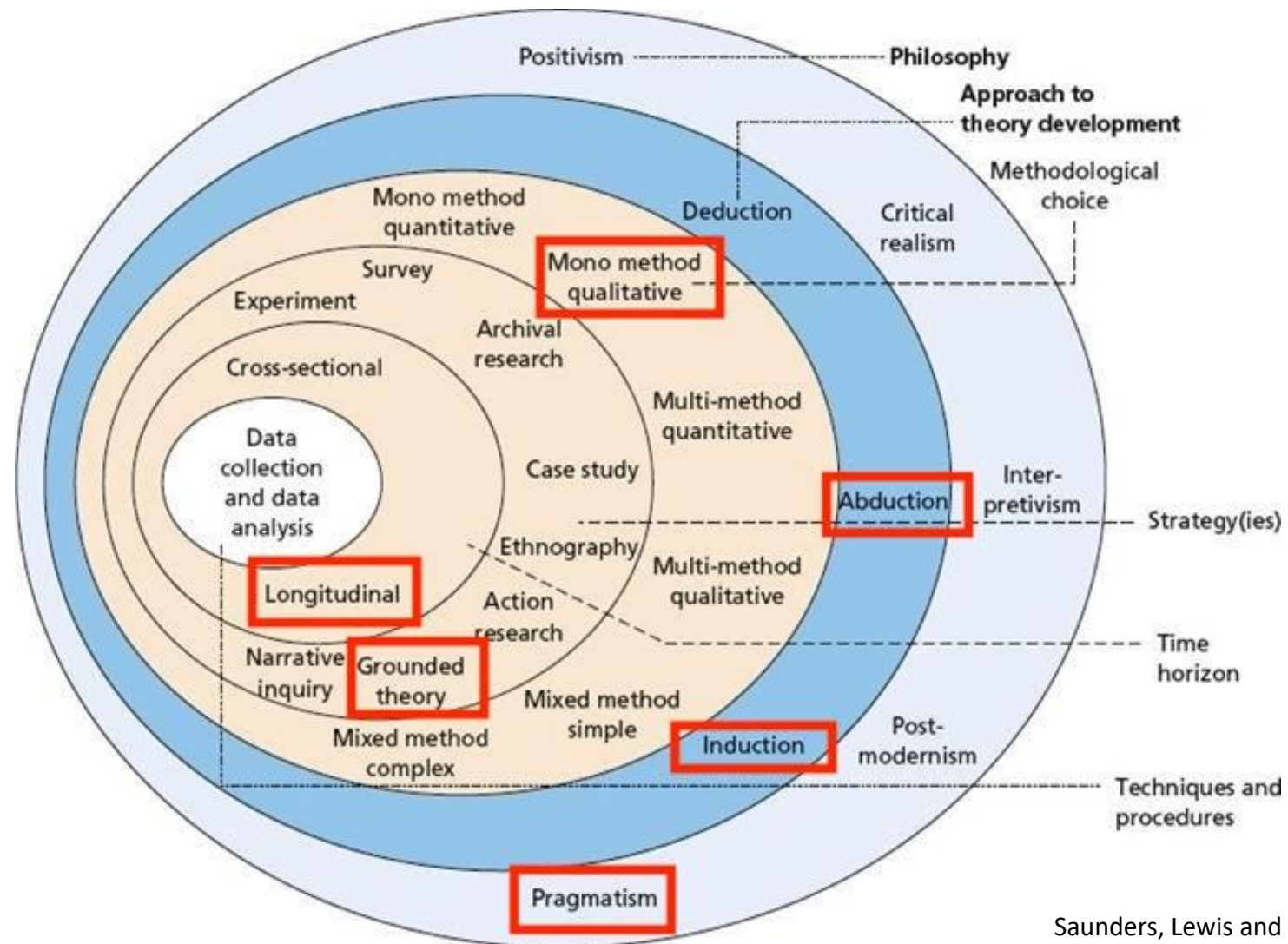
✉ david.deguara@mcast.edu.mt

Research Aims

This study aims to understand GAI chatbots' perceived effects on teaching and learning within higher education institutions through a comparative analysis process with academics and policymakers. This was reached by setting the following research objectives:

1. To explore the perspectives of academics and policymakers on GAI chatbot technology's impact on teaching and learning.

2. To investigate the adoption process of this technology by academics.

3. To analyse the technology's perceived effectiveness, challenges and limitations for teaching and learning.
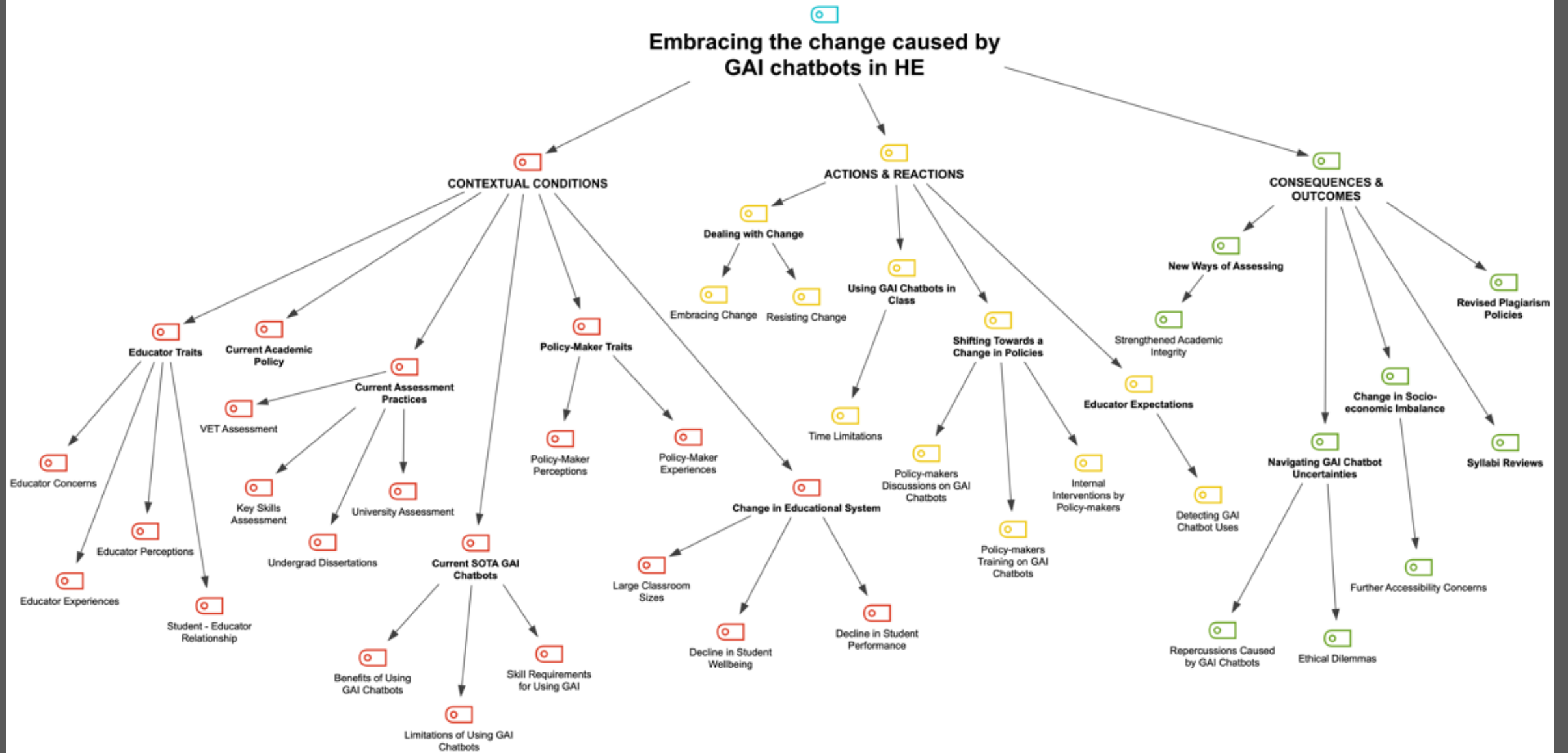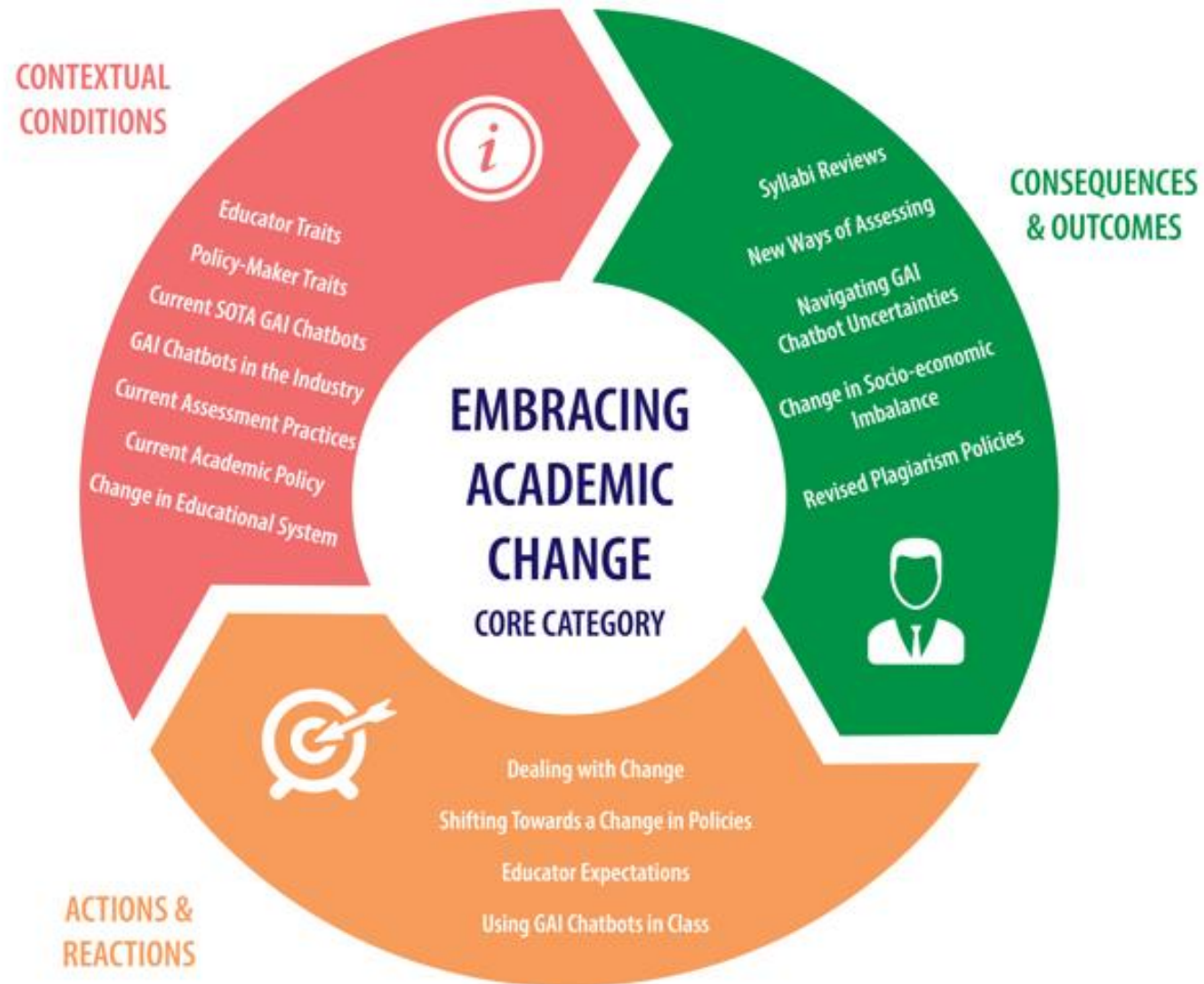
Research Onion Applied to Methodology

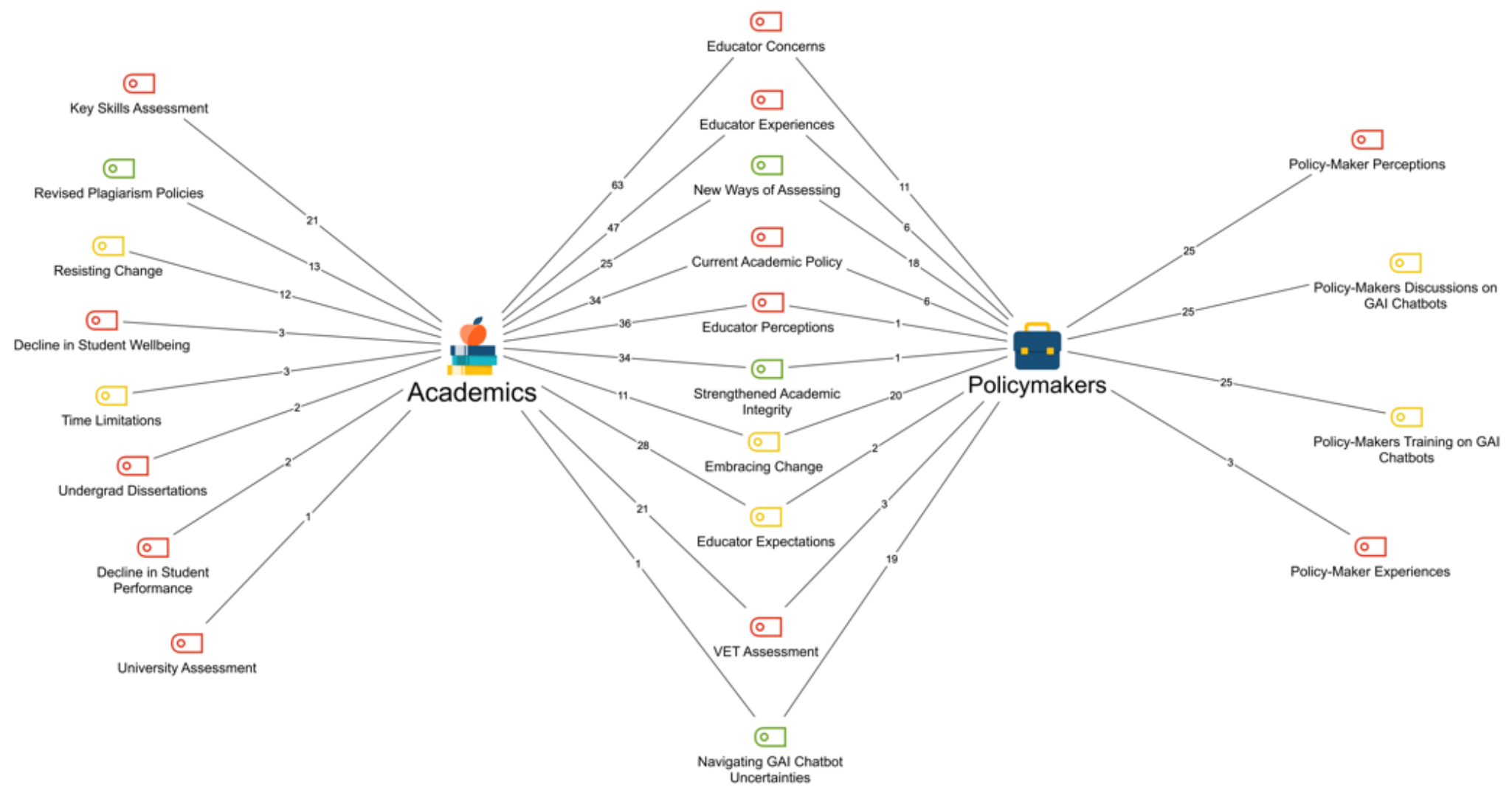
Saunders, Lewis and Thornhill (2009)

Code Hierarchy Concept Map

Embracing the change caused by GAI chatbots in HE

CONTEXTUAL CONDITIONS

ACTIONS & REACTIONS

CONSEQUENCES & OUTCOMES

- Educator Traits
  - Educator Concerns
  - Educator Perceptions
  - Educator Experiences
  - Student - Educator Relationship
- Current Academic Policy
  - VET Assessment
- Current Assessment Practices
  - Key Skills Assessment
  - University Assessment
  - Undergrad Dissertations
- Policy-Maker Traits
  - Policy-Maker Perceptions
  - Policy-Maker Experiences
- Current SOTA GAI Chatbots
  - Benefits of Using GAI Chatbots
  - Limitations of Using GAI Chatbots
  - Skill Requirements for Using GAI

Dealing with Change
- Embracing Change
- Resisting Change

Using GAI Chatbots in Class
- Time Limitations
- Change in Educational System
  - Large Classroom Sizes
  - Decline in Student Wellbeing
  - Decline in Student Performance

Shifting Towards a Change in Policies
- Policy-makers Discussions on GAI Chatbots
- Policy-makers Training on GAI Chatbots
- Internal Interventions by Policy-makers

Educator Expectations

New Ways of Assessing
- Strengthened Academic Integrity

Change in Socio-economic Imbalance
- Navigating GAI Chatbot Uncertainties
  - Detecting GAI Chatbot Uses
  - Repercussions Caused by GAI Chatbots
  - Ethical Dilemmas
  - Further Accessibility Concerns

Revised Plagiarism Policies

Syllabi Reviews

CONTEXTUAL CONDITIONS

Educator Traits
Policy-Maker Traits
Current SOTA GAI Chatbots
GAI Chatbots in the Industry
Current Assessment Practices
Current Academic Policy
Change in Educational System

EMBRACING ACADEMIC CHANGE
CORE CATEGORY

CONSEQUENCES & OUTCOMES

Syllabi Reviews
New Ways of Assessing
Navigating GAI Chatbot Uncertainties
Change in Socio-economic Imbalance
Revised Plagiarism Policies

ACTIONS & REACTIONS

Dealing with Change
Shifting Towards a Change in Policies
Educator Expectations
Using GAI Chatbots in Class

Two-Cases Model

Key Skills Assessment

Revised Plagiarism Policies

Resisting Change

Decline in Student Wellbeing

Time Limitations

Undergrad Dissertations

Decline in Student Performance

University Assessment

Academics

Educator Concerns

Educator Experiences

New Ways of Assessing

Current Academic Policy

Educator Perceptions

Strengthened Academic Integrity

Embracing Change

Educator Expectations

VET Assessment

Navigating GAI Chatbot Uncertainties

Policymakers

Policy-Maker Perceptions

Policy-Makers Discussions on GAI Chatbots

Policy-Makers Training on GAI Chatbots

Policy-Maker Experiences

21 · 13 · 12 · 3 · 3 · 2 · 2 · 1

63 · 47 · 25 · 34 · 36 · 34 · 11 · 28 · 21 · 1

11 · 6 · 18 · 6 · 1 · 1 · 20 · 2 · 3 · 19

25 · 25 · 25 · 3

ENGAGING INNOVATIVE KNOWLEDGE THROUGH APPLIED
QUALITATIVE RESEARCH
MCAST 2nd ANNUAL CONFERENCE IN QUALITATIVE RESEARCH METHODS

MCAST   HEALTHY MINDS WORK   Malta Chamber of smes

Proposition 1: Finding novel ways of assessing students

Participant 2: *"The implication is that now the way we assess has to change.."*

Participant 4: *"I think the assessment needs to be re-imagined for there to be integrity in the marks that we release.."*

Participant 5: *"I think even the modes of assessment need to change.."*

Participant 3: *"there are multiple pros to a different sort of assessment and definitely circumvents AI.."*

ENGAGING INNOVATIVE KNOWLEDGE THROUGH APPLIED
QUALITATIVE RESEARCH
MCAST 2nd ANNUAL CONFERENCE IN QUALITATIVE RESEARCH METHODS

MCAST   HEALTHY MINDS WORK   Malta Chamber of sme^s

Proposition 2: Revising academic policies

Participant 5: *"So we are very frustrated, because we don't know how to correct fairly.."*

Participant 2: *"It is important however that this tool is used in a responsible manner.."*

Participant 4: *"For a student to be penalised for something related to plagiarism, the student has to admit doing so.."*

Participant 5: *"I couldn't penalise the student for not producing the work himself in the essay.."*

Participant 4: *"We need a tool for detecting code plagiarism, that is part of a system that everyone can use.."*

# Proposition 3: Improving modus operandi

Participant 3: *"It will be a huge leap for us. But it's not impossible. I mean, we're not the only VET institution.."*

Participant 3: *"we can't change all the assessment of all our programmes of all the units overnight.."*

Participant 2: *"AI is a tool and as a tool we have to embrace it"*

Participant 5: *"why should we omit the use of AI if out there, at home, at work, the student has the leisure of using AI?"*

ENGAGING INNOVATIVE KNOWLEDGE THROUGH APPLIED
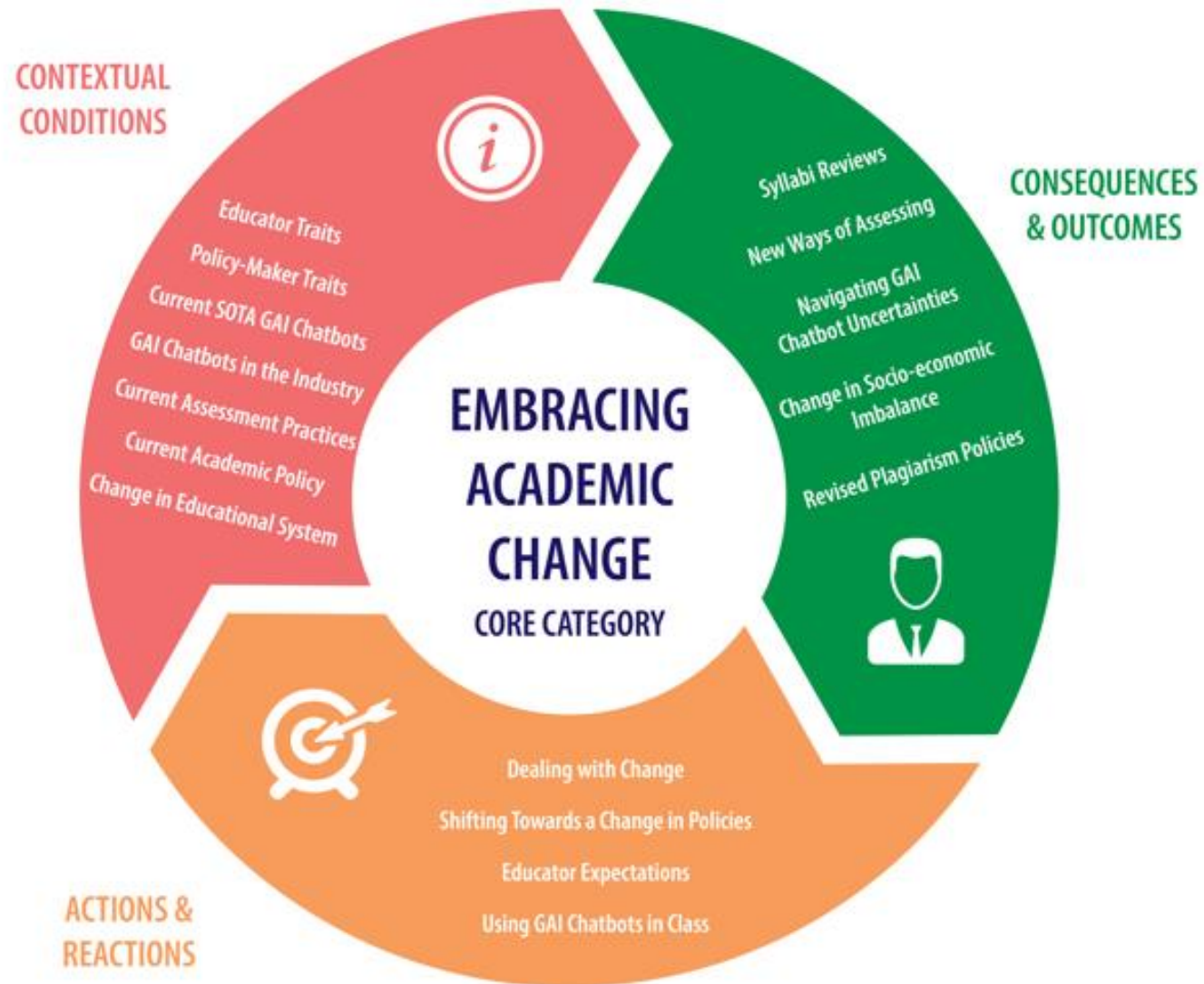
QUALITATIVE RESEARCH

MCAST 2nd ANNUAL CONFERENCE IN QUALITATIVE RESEARCH METHODS

THANK YOU

✉ david.deguara@mcast.edu.mt