

# Research-Led Teaching and Inquiry

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# Why Research-Led Teaching & Inquiry

***Because **ULTIMATELY**, the product [graduate] matters most...***

Therefore;

*...the production outfit [CU] must give its **UTTERMOST** for the best output*

*...every responsive producer must continually observe societal needs and **EVOLVE** ways to generate better products*

# Why Research-Led Teaching & Inquiry

What these stakeholders desire:

- *Sponsors* – Good return on investments
- *Employers* – *Highly Productive personnel*
- *Employees* – Visionary and Exemplary leadership
- *Superiors* – *Contributory & minimally supervised subordinates*
- *Subordinates* – Foresighted and insightful superiors
- *Contemporaries* – *complimentary associates*

## **...because we seek persons that are**

*more intellectually engaging, socially receptive, emotionally stable and societally responsive than just information sponges*

*skilled in interpersonal communication, able to explain their reasoning in written and oral forms to peers and to evaluate oral arguments [theirs and those of others]*

*able to demonstrate their knowledge and understanding of general and specific subjects from logical, theoretical and empirical observations [experiences]*

## **...because we seek persons that are**

*skilled in the use of relevant technology, ...able to function appropriately in the use of necessary software and hardware for data collection and analysis.*

*able to socialized in the varied and evolving community(ies), aware that understanding underlying concepts and principles is a coherent framework for understanding many different and changing situations.*

*able to function well in a group and evaluate the functioning of that group*

## **...Some believe traditional method is RESTRICTIVE**

*Traditional teaching method “Commandant” style is restrictive, inhibitory and frustrating for most students.*

*Most students are young adults and seemly restive. ...that [restlessness] which we [teachers] often do not like, is the strength they have that we should tap. ...so engage them in research while they learn.*

*Play [informal setting] is still a major part of the human development and [young] people learn better when they have some air of informality.*

*...Some have considered traditional method as UNFAIR*

*“I cannot think of anything more unfair than ... to treat all students as if they are the same, when they so manifestly are not” (Elton 2000).*

*A university is not a military yard where mandatory instructions are compulsory accepted without questioning*

*The traditional classroom setting is increasingly considered dictatorial or in the least tyrannical in both its delivery style and perception by students.*



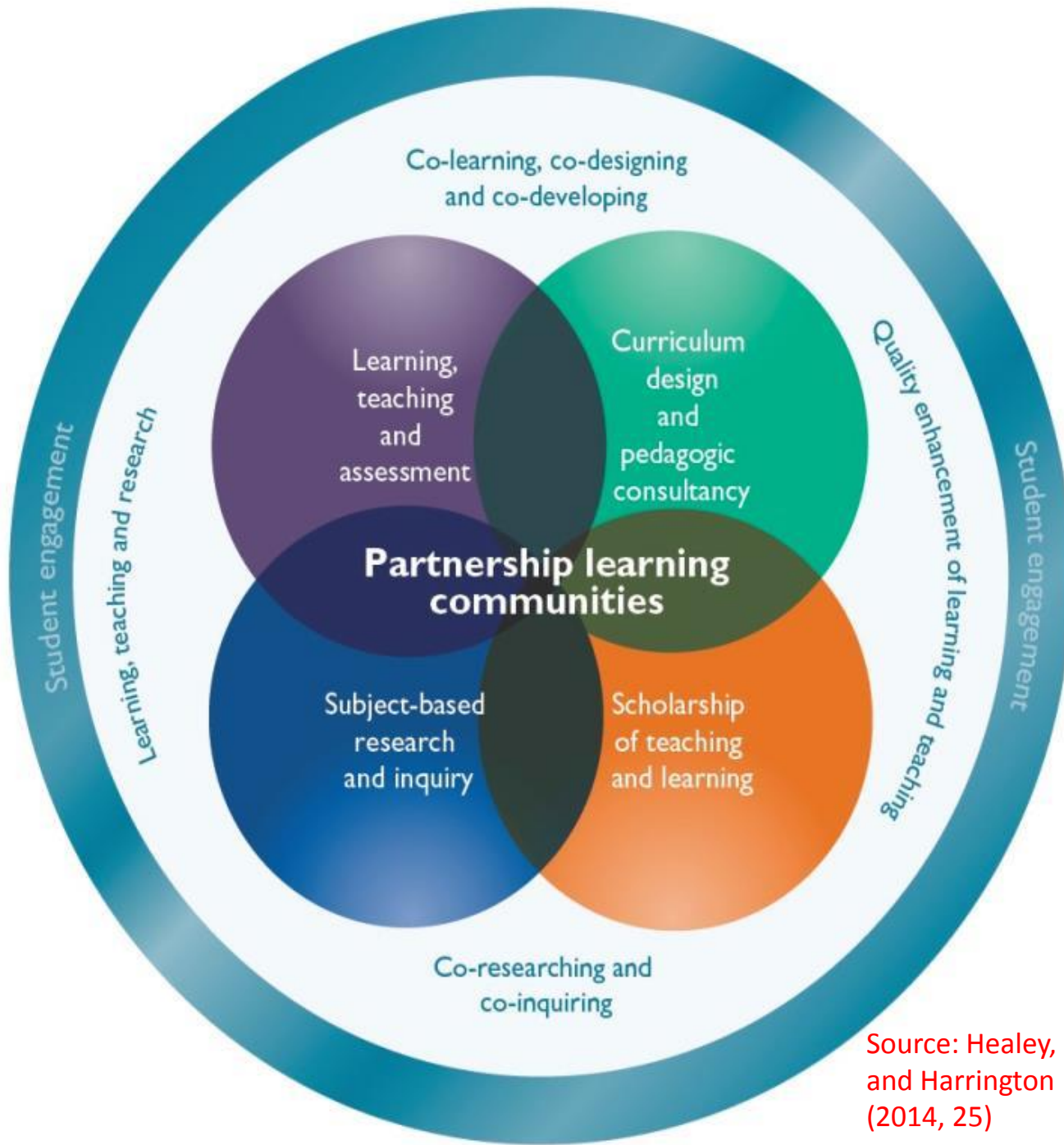
*Romans 6:1 ...Shall we continue in sin, that  
grace may abound?*

*...should we create anarchy  
because we wish to learn?*

*“...the goal of education in general is to get students to think like experts more broadly.” (Wieman, 2004)*

*“...Research-based learning and inquiry help students discover who they are and what they can do, while they gather wider perspectives on issues by interacting.*

*“We need to encourage universities and colleges to explore new models of curriculum. ... There are several models that we might explore. They should all ...**Incorporate** research-based study for undergraduates” (Ramsden, 2008)*



# Students as partners in learning and teaching in higher education

Source: Healey, Flint and Harrington (2014, 25)

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# Highlights of Research-Led Teaching

Quality enhancement of learning and teaching, through students-teacher partnership

*Resulting in:*

- *Co-learning*
- *Co-designing*
- *Co-developing*
- *Co-researching*
- *Co-inquiry*

# Highlights of Research-Led Teaching

*It re-invigorated the student's sense of engagement as part of a culture of knowledge and research at university.*

*Create the feeling of reality in doing the real job they are been trained for.*

# **How Do We Drive Research- Led Teaching & Inquiry**

# A 'Research Active Curriculum'

**“All undergraduate students in all higher education institutions should experience learning through, and about, research and inquiry.**

**It should be mainstreamed for all students through a *research-active curriculum*.**

**It can be achieved through structured interventions at course, departmental, institutional and national levels” (Healey and Jenkins, 2009).**

# 2

## 'Infrastructural Changes'

### SCALE-UP: Student-Centred Active Learning Environment with Upside-down Pedagogies

*SCALE-UP is a learning environment specifically created to facilitate active, collaborative learning in a studio-like setting.*

The spaces are carefully designed to facilitate interactions between teams of students who work on short, interesting tasks.

*Some people think the rooms look more like restaurants than classrooms (Gaffney, 2008).*



# Setting Comparison - Traditional “Commandant” and Learning Studio

	<b>Traditional Classroom</b>	<b>Learning Studio</b>
<b>Student</b>	Boring Dry Dour Oppressive Intimidating	Inviting Welcoming Comfortable Open Clean Fresh Relaxing
<b>Faculty</b>	Bulky furniture Long tables Institutional Soldiers in a row Inefficient	Interactive Modern Flexible More Aesthetic Easy to move around Better for group work Conducive to learning

# Possible SCALE-UP at CU



Note: the Instructor's Desk amidst the setting.

# Traditional Classroom

Note: the Instructor's Desk at the end.



# Traditional Classroom in CU



# 3

## Engage The students in Research and inquiry

*“Research and inquiry is central to professional life in the twenty-first century, not just for those who choose to pursue an academic career”*

*“For the students who are the professionals of the future, developing the ability to investigate problems, make judgments on the basis of sound evidence, take decisions on a rational basis, and understand what they are doing and why is vital” (Brew, 2007).*

# Engaging students in research and inquiry

*“Requires, as a minimum, the adoption of the Learning Paradigm in everything from the first introductory course [in 100 level] through the final capstone experience.*

*It requires a culture of inquiry-based learning infused throughout the entire curriculum that starts with the very first day of school and is reinforced in every classroom and programme. (Hodge et al. 2007)*

1. Building 'team work atmosphere', where team members seek to **collectively solve problems** using scientific method and drawing on their varied backgrounds
2. Building a culture of collaboration rather than of competition, amongst students.
3. Driving a 'stream of ideas' no matter how mundane and encouraging **deductive, inductive and abductive reasoning.**

*Applying deductive, inductive and  
abductive reasoning to drive Critical,  
Lateral (Analytical) and Creative  
Thinking.*



**Deductive reasoning** is used to **test hypothesis and theories** and examines the possibilities to reach **specific**, logical conclusion from a **general position**.

**Inductive reasoning** is use it to **form hypotheses and theories**, starting from the specific to the general.

**Abductive reasoning** entails **making an educated guess** after observing a phenomenon for which there is no clear explanation.

# 4

## Embed Research and Inquiry In Teaching, Learning and Examination

1. *Adopt different ways of engaging students*
2. *Design Research and Inquiry strategies [as part of the module] for engaging students throughout the different topics of a course*
3. *Evolve & design strategies for engaging students from the beginning to the end [capstones and dissertations] of their programme.*
4. *Develop institutional, college, departmental standards for engagements to drive and maintain quality and forestall abuse.*

# Curriculum design and the research-teaching nexus

STUDENTS ARE PARTICIPANTS

	<b>Research-tutored</b>	<b>Research-based</b>	
	Engaging in research discussions	Undertaking research and inquiry	
<b>EMPHASIS ON RESEARCH CONTENT</b>	Learning about current research in the discipline	Developing research and inquiry skills and techniques	<b>EMPHASIS ON RESEARCH PROCESSES AND PROBLEMS</b>
	<b>Research-led</b>	<b>Research-oriented</b>	
	STUDENTS FREQUENTLY ARE AN AUDIENCE		

(based on Healey, 2005)

# Inquiry-based learning: a conceptual framework

**STUDENT-LED**

**Pursuing**  
(information-active)

**Authoring**  
(discovery-active)

**EXPLORING AND  
ACQUIRING EXISTING  
KNOWLEDGE**



**PARTICIPATING  
IN BUILDING  
KNOWLEDGE**

**Identifying**  
(information-responsive)

**Producing**  
(discovery-responsive)

**FACULTY-LED**

(Based on Levy, 2009)

# 5

## Developmental Path of Research-Led Teaching

University curricula need to support student and citizen development from

“**absolute knowing** [where] students view knowledge as certain; their role is to obtain it from authorities ... (to) **contextual knowing** [where] students believe that knowledge is constructed in a context based on judgement of evidence; their role is to exchange and compare perspectives, think through problems, and integrate and apply knowledge” (Magolda, 1992).

<b>Developmental Level</b>	<b>Student traits</b>
Reliance on external references <i>[Foundations]</i>	<ul style="list-style-type: none"> <li>- Knowledge viewed as certain</li> <li>- Reliance on authorities as source of knowledge</li> <li>- Externally defined value system and identity.</li> </ul> <i>Foundational and Primary Source of Knowledge</i>
At the crossroads <i>[Intermediate Learning]</i>	<ul style="list-style-type: none"> <li>- Evolving awareness of multiple perspectives and uncertainty</li> <li>-Evolving awareness of own values and identity and of limitations of dependent relationships.</li> </ul> <i>Knowing and aligning with “Schools of Thoughts”</i>
Self-authorship <i>[Capstone]</i>	<ul style="list-style-type: none"> <li>- Awareness of knowledge as contextual</li> <li>- Development of internal belief system and sense of self capacity to engage in authentic, interdependent relationships.</li> </ul> <i>Evolving Independent Perspectives ‘Thoughts’</i>

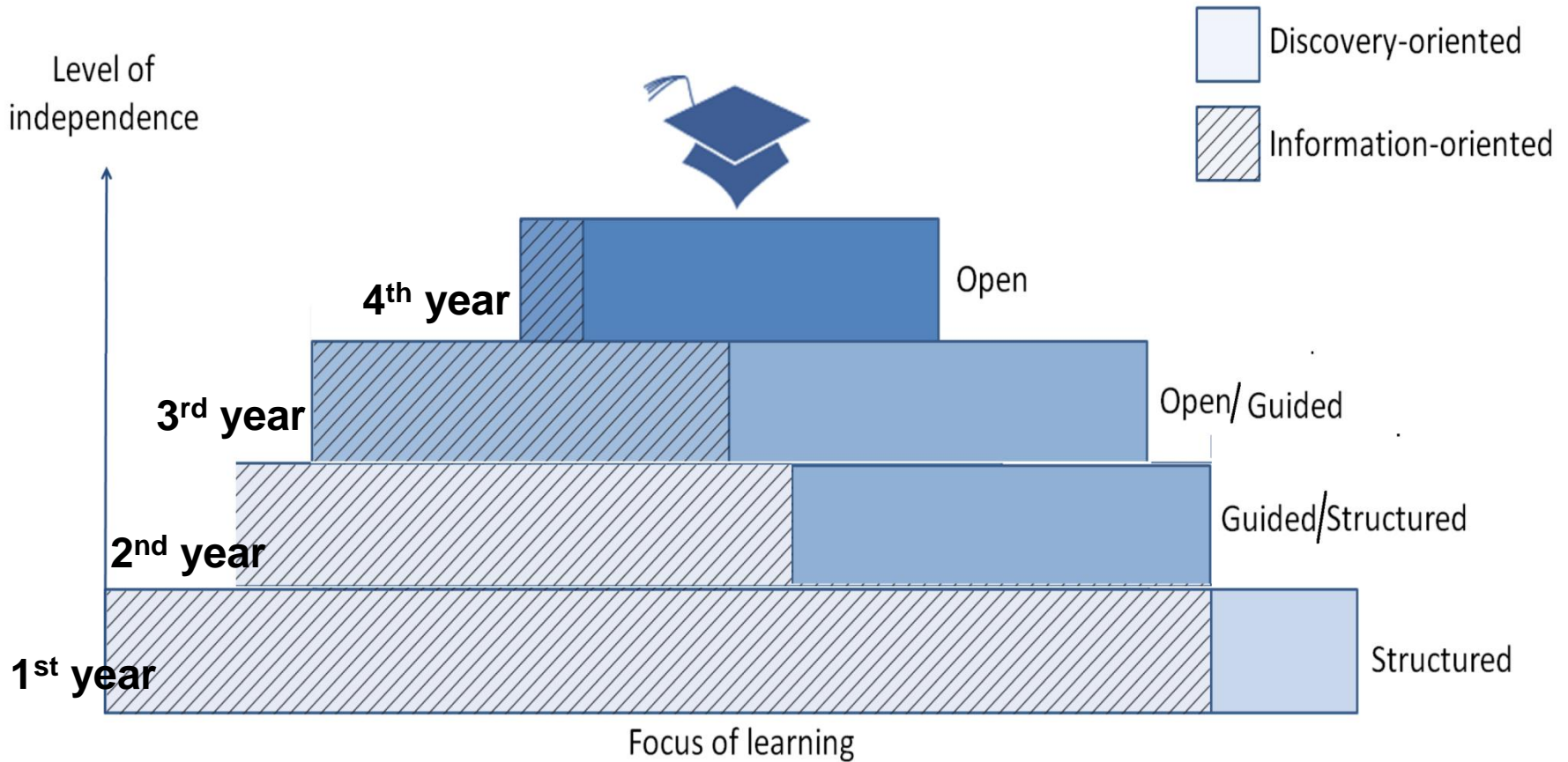
Source: Hodge *et al.* (2008)

# Modes of Inquiry-Based Learning

- Importance of scaffolding provided by lecturer and development of independence in learner
- **Structured** – where lecturers provide an issue or problem and an outline for addressing it
- **Guided** – where lecturers provide questions to stimulate inquiry but students are self-directed in terms of exploring these questions
- **Open** – where students formulate the questions themselves as well as going through the full inquiry cycle

(Staver and Bay, 1987)

# Scaffolding Inquiry throughout a 4-years degree format





# Supervisor and Student Partnership



# 6

## Mainstream undergraduate research and inquiry

### 1. *Teach from Your Research*

*Lecturers and instructors should relate with students from their [lecturers] research background. We should use the rich and complex networks indicative of our expert status, rather than simple, linear structures that comprise most teaching sequences (Kinchin & Hay, 2007)*

### 2. *Create Clusters/Groups*

*Group the students into manageable units [4-9] assign tasks that demands collective engagement, demand collective and individual responsibilities*

# Mainstream undergraduate research and inquiry

## *3. Evaluate Performance Openly & Allow Feedbacks*

*Evaluate performance openly to promote healthy learning and drive for improvement. Also, create room for proactive rather than reactive feedbacks during and after the course (Nicol & Macfarlene-Dick 2006).*

## *4. Arrange the Students Not Necessarily the Furniture*

*Do not be hindered by the non-availability of SCALE-UP systems, create it ...re-arrange the students in class not necessarily the furniture.*

## *5. Engage the Student Throughout the Course/Programme*

*Engage the student before, during and where possible, after the course/programme.*

# Mainstreaming undergraduate research and inquiry

## 6. *Knowledge Acquisition not Information Regurgitation*

*CU students have modern electronic devices, access to the internet [10GB monthly], and robust library. We should help them to use these resources in the acquisition of knowledge.*

## 7. *Understand Your Peculiarities*

*These positions outlined are generic. Understand your peculiarities and pay attention to subject-based variations to maximize performance (Griffiths, 2006).*

# Some Feedbacks

BLY319 -> Cultural Survey -> My cultural survey -> Re: My cultural survey

by CU/07/204 ASOTIE OMONHINMIN - Wednesday, 5 August 2015, 12:58 PM

How did this work affect your view of indigenous knowledge of your people and how do you intend to use this knowledge in the future

BLY319 -> Cultural Survey -> My cultural survey -> Re: survey reply awnser

by CU/07/204 ASOTIE OMONHINMIN - Saturday, 22 August 2015, 1:00 PM

What is your suggestion for future assignments and what levels should such assignment(s) cover. Considering that this is only for a course, how do we ensure consistency? Because the award of marks is the incentive here. If not tied to a course can we monitor it?.

# Concluding Thoughts

*If undergraduate research is to be truly integrated into the greater society, then the nature of higher education itself will need to be reconceptualised.*

*“universities need to move towards creating inclusive scholarly knowledge-building communities (Brew, 2007).*

*We must de-robe as “commandant” and de-militarized the classroom and instead become partners [albeit senior] with the students in learning and teaching.*

*...the notion of inclusive scholarly knowledge-building communities invites us to consider new ideas about who the scholars are in universities and how they might work in partnership, to become better and productive managers of knowledge.”*

**Thank you**