Research-Led Teaching and Inquiry

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Why Research-Led Teaching & Inquiry

Because ULTIMATELY, the product \textit{[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 insightfulful 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 leaning 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)
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).
‘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

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

<table>
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<tr>
<th>Students Are Participants</th>
<th>Research-tutored</th>
<th>Research-based</th>
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</thead>
<tbody>
<tr>
<td>Engaging in research discussions</td>
<td>Learning about current research in the discipline</td>
<td>Undertaking research and inquiry</td>
</tr>
<tr>
<td>Research-led</td>
<td>Developing research and inquiry skills and techniques</td>
<td>Research-oriented</td>
</tr>
</tbody>
</table>

Students frequently are an audience

Curriculum design and the research-teaching nexus (based on Healey, 2005)
Inquiry-based learning: a conceptual framework

STUDENT-LED

Pursuing (information-active)

Authoring (discovery-active)

EXPLORING AND ACQUIRING EXISTING KNOWLEDGE

Identifying (information-responsive)

Producing (discovery-responsive)

FACULTY-LED

(Based on Levy, 2009)
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).
<table>
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<th>Developmental Level</th>
<th>Student traits</th>
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| Reliance on external references [Foundations] | - Knowledge viewed as certain  
- Reliance on authorities as source of knowledge  
- Externally defined value system and identity.  
*Foundational and Primary Source of Knowledge* |
| At the crossroads [Intermediate Learning] | - Evolving awareness of multiple perspectives and uncertainty  
- Evolving awareness of own values and identity and of limitations of dependent relationships.  
*Knowing and aligning with “Schools of Thoughts”* |
| Self-authorship [Capstone] | - Awareness of knowledge as contextual  
- Development of internal belief system and sense of self capacity to engage in authentic, interdependent relationships.  
*Evolving Independent Perspectives ‘Thoughts’* |

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
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
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