

# The Research Cycle Conference 2017, GMIT

An Evaluation Of Student  
Perceptions Of Teaching And  
Learning And Assessment  
Strategies Implemented Within  
The Galway-Mayo Institute Of  
Technology 'Identification Skills  
For Biologists' Module

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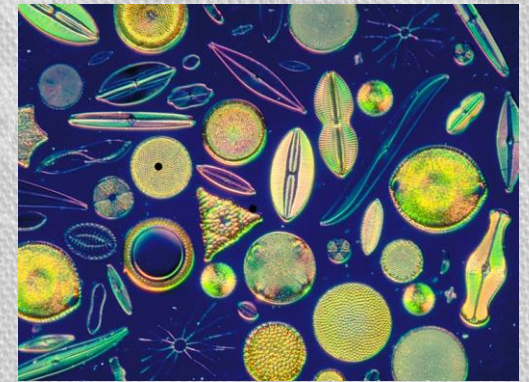


# Background To The Study

- Identification Skills for Biologists module (ID Skills) (Nash et al., 2015)



- **Diatoms** – microscopic plants with a unique silica (glass) wall (Bellinger & Sigee, 2010)



- Teaching & Learning (T&L) strategy combines lectures, practicals & student- directed learning
- Formative & summative assessments form 100% continuous assessment
- Ten students (6M & 4F)

# Literature Review

**Student Centered Pedogogy** is a leading learning approach (Attard, Di Ioio, Geven, & Santa, 2010)

- Places emphasis on providing the student with the opportunity to develop their own learning and knowledge by actively doing and/or experiencing (Attard et al., 2010; Harden & Crosby, 2000; Mascolo, 2009; O'Neill & McMahon, 2005; Singh, 2011)



# Aims and Objectives

1. Perceptions  
of T&L and  
skills gained

**Assess the  
perception of  
students to T&L and  
assessment  
strategies  
implemented within  
the diatom group**

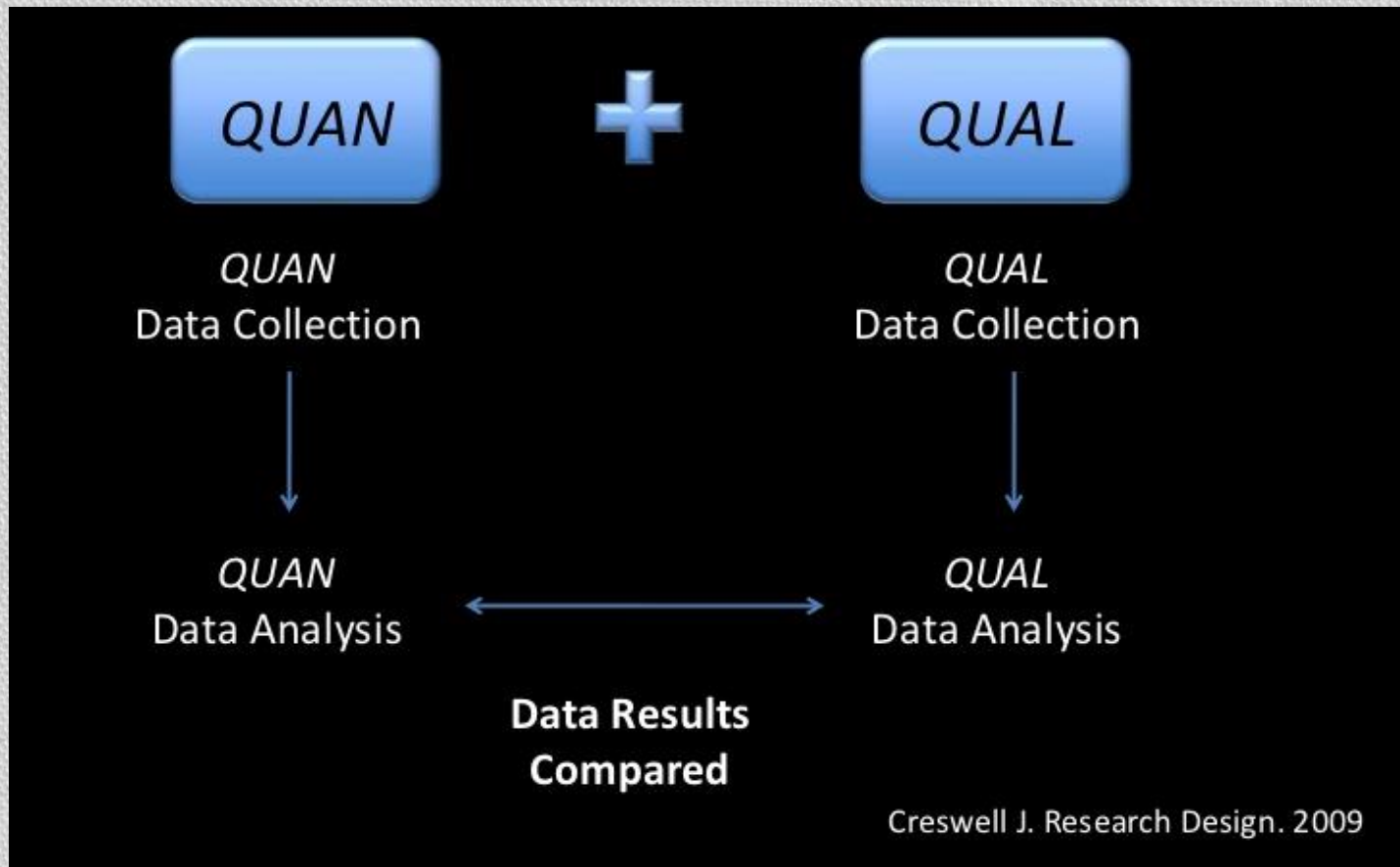
3. Student-  
centered  
recommendations

2. Effectiveness of  
assessments in  
meeting learning  
outcomes

# Research Methodology and Methods

## Mixed Methods Research

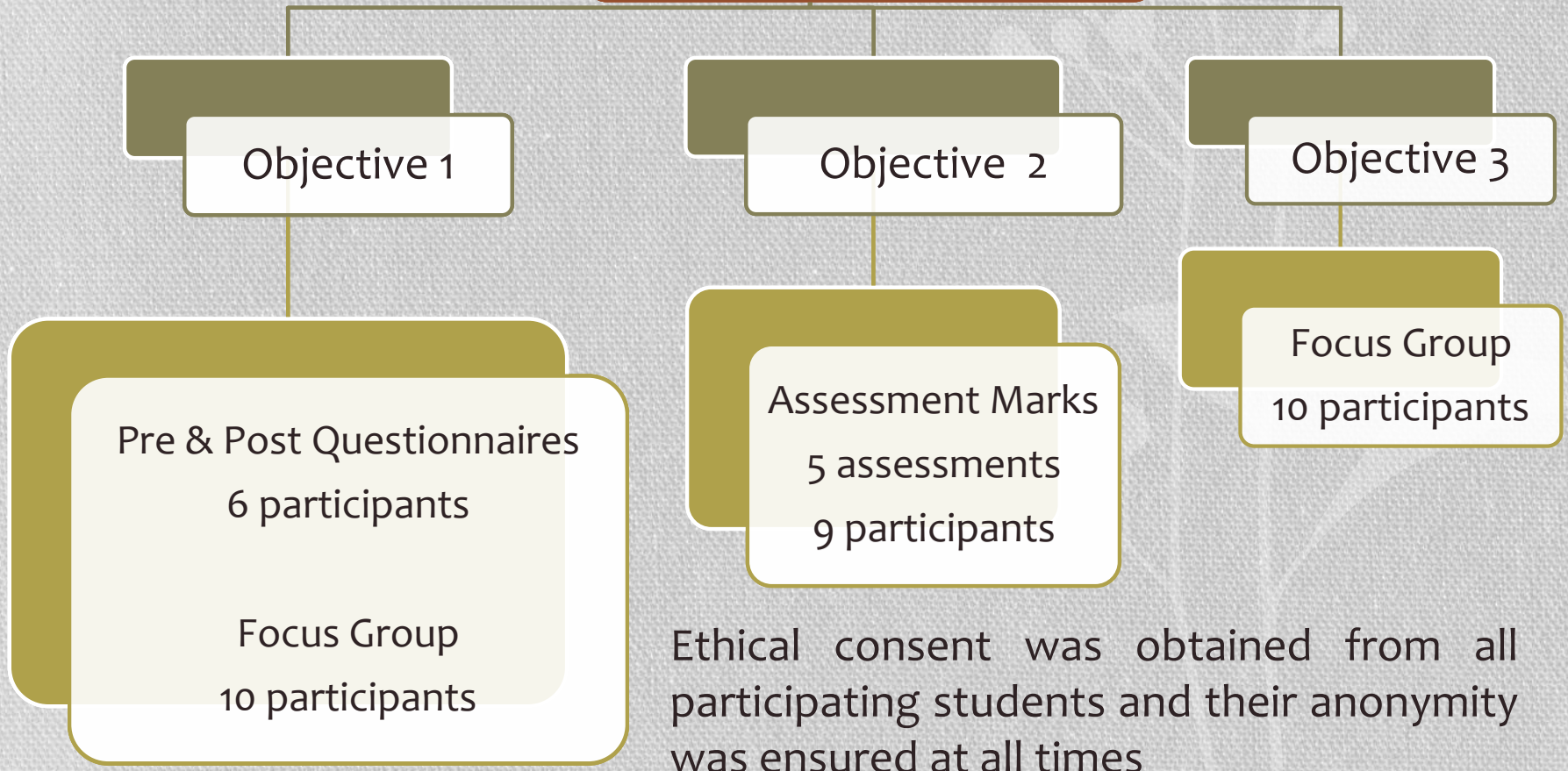
Creswell & Plano Clark, (2011), Feilzer, (2010), Gorard, (2012) and Teddlie & Tashakkori, (2012) define mixed methods research as:



# Research Methodology and Methods

## Methodological Triangulation

(Cohen, Manion, & Morrison, 2011)



Ethical consent was obtained from all participating students and their anonymity was ensured at all times

# Key Research Findings

*Objective 1: To assess the student perceptions of teaching and learning and new skills gained throughout the module*

## Positive perceptions

SCL appropriate teaching pedagogy (n = 9)

Key skills = using compound and inverted microscope & preparing temporary mounted slides (n = 6)

## Negative perceptions

- Insufficient lectures and practical support time (n = 9)
- Feeling of inequality (n = 9)
- Workload exceeded >200 hrs of self-directed learning (n = 3)
- Only 2/9 students would choose diatoms again

# Key Research Findings

Objective 2: To examine the effectiveness of the assessment strategy employed to meet the learning outcomes of the module

## Key Comments

- All 9 participants passed the module (44-78%)
- Marks for the five assessments ranged from 36-74%
- 4/9 participants failed assignment 3 – Spot test



# Key Research Findings

Objective 3: To evaluate student-centered recommendations on teaching and learning and assessment strategies which will benefit the design of the module ID Skills in the future

## Student recommendations of T&L and assessment strategy

- Revise workload and timelines
- Increase lecture times
- Allow more flexibility around practical support hours
- Introduce an online blog/forum
- Introduce weekly spot tests
- Provide clearer instructions
- Better alignment of staff and student expectations

# Research Analysis and Conclusions

Need to address the excessive student-directed workload

## Suggested changes

- Reduce assessments – ePortfolio (60%) and final exam theory (40%)
- Online blog / Just-in-time lectures

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# References for Images

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- Slide 2 Background to the Study. Image 2 at <http://bsbipublicity.blogspot.ie/2015/02/saving-field-biology-skills-from.html>. Accessed 22/4/2017
- Slide 2 Background to the Study. Image 3 at <https://www.pinterest.com/kat1628/scientific-imagery-and-microphotography/>. Accessed 22/4/2017
- Slide 3 Literature Review. Image 1 <https://www.edutopia.org/blog/student-centered-learning-environments-paul-bogdan>. Accessed 04/5/2017.
- Slide 5 Methodology and Methods. Image 3 at <https://blog.venasolutions.com/category/reporting/page/2/>. Accessed 22/4/2017



# THANK YOU FOR LISTENING

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