



北京大学  
PEKING UNIVERSITY



## eLearning Forum Asia 2012

24-27 April 2012 @ Peking University, China

### Next Generation Learning

Visions • Innovations • Possibilities

# Using Grading Analytics to Improve Student Learning

Presented by: **Dr. Cath ELLIS**  
**University of Huddersfield, United Kingdom**



# Using Gradermark Analytics to Improve Student Learning

Dr Cath Ellis

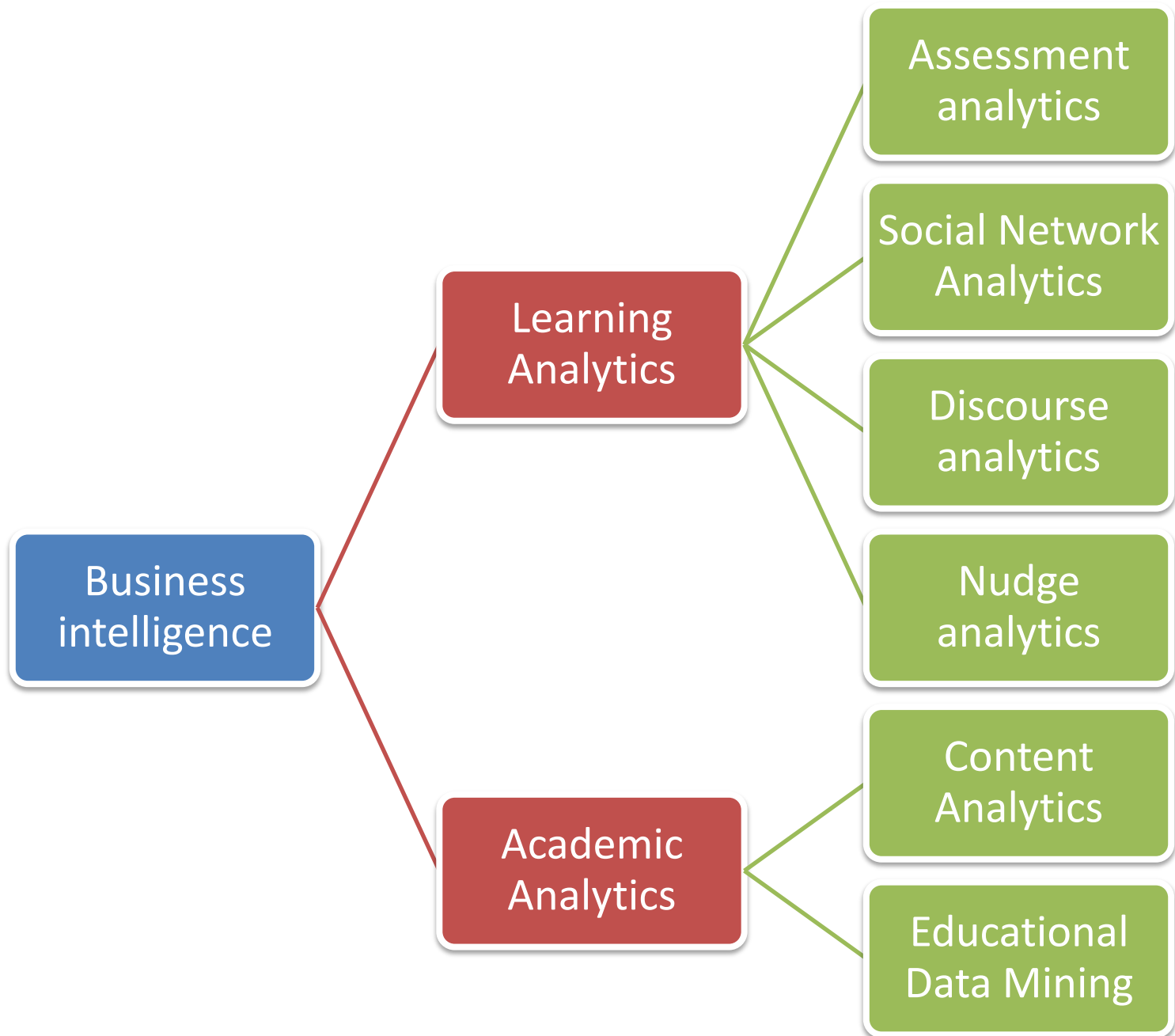
University of Huddersfield

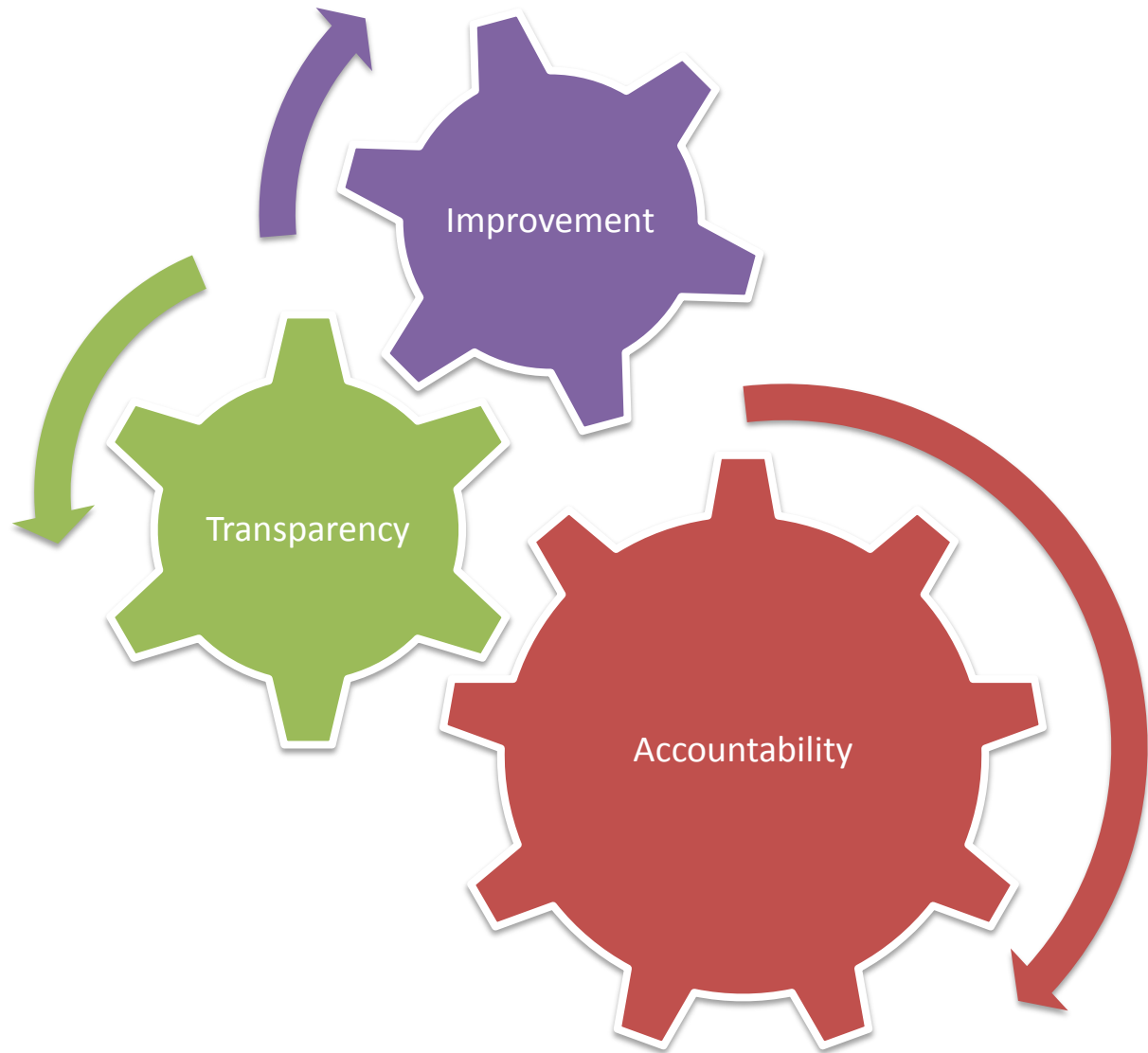
Learning analytics is the measurement, collection, analysis and reporting of data about learners and their contexts, for the purposes of understanding and optimising, learning and the environment in which it occurs.

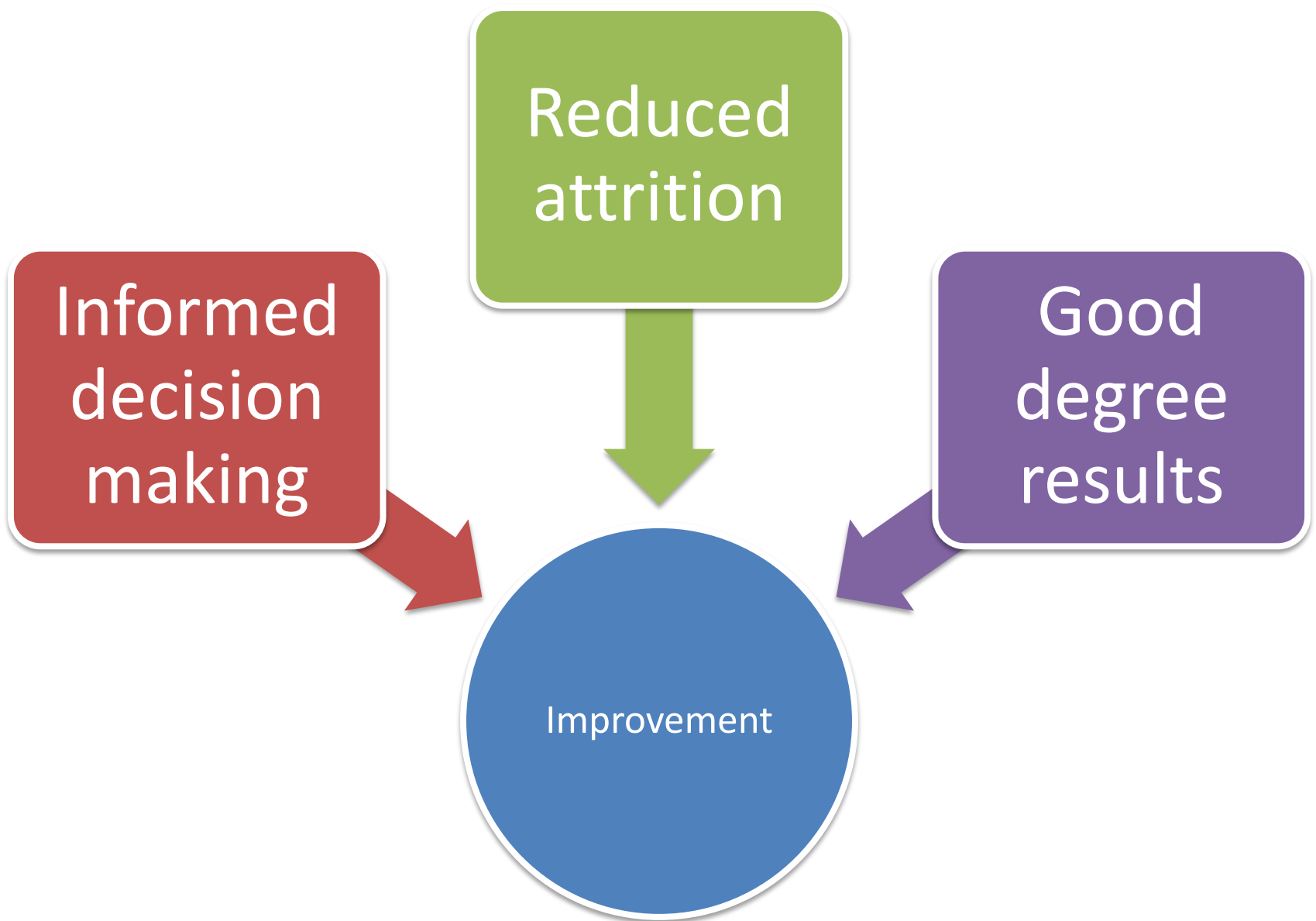
(LAK cited in  
Ferguson)

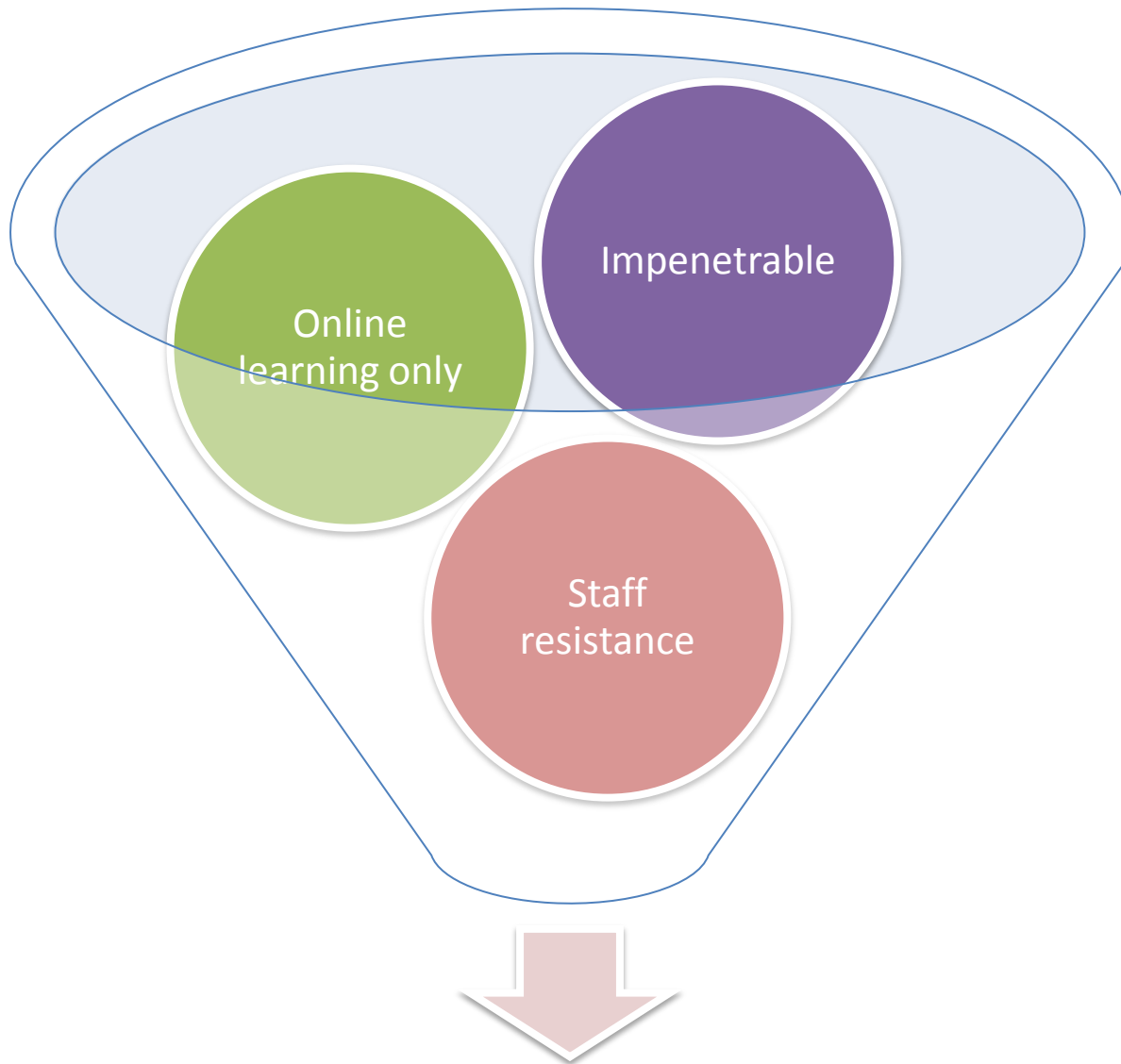
Implicit within this definition are the assumptions that learning analytics make use of pre-existing, machine-readable data, that its techniques can be used to handle large data sets of data that would not be practicable to deal with manually.

(Ferguson)



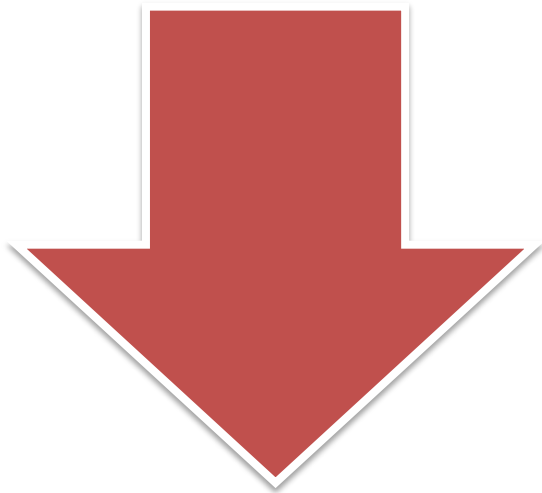






**Operationalisation**





## Depth

- Granularity

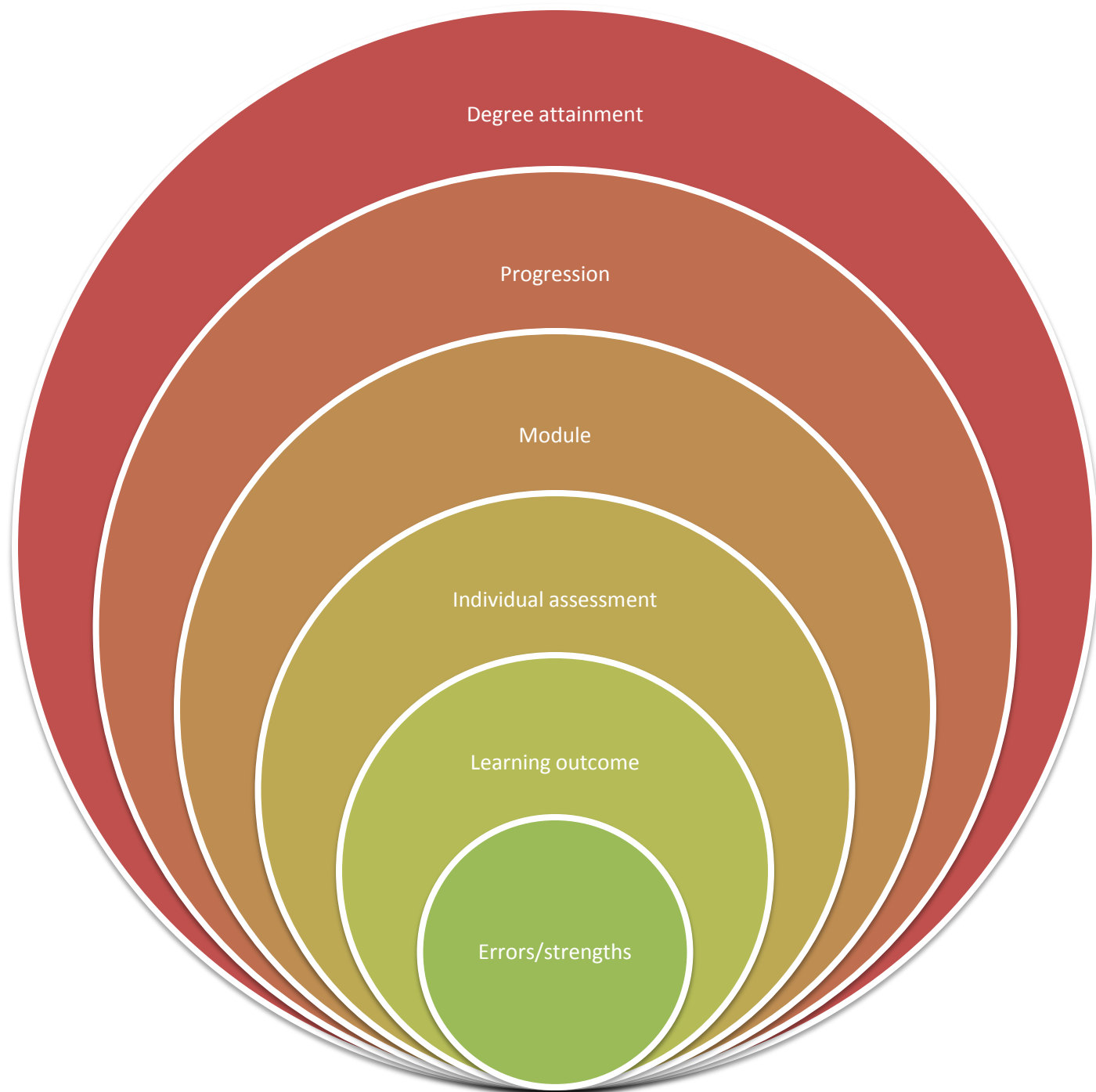


## Breadth

- Large data sets



# Assessment Analytics





Persistence

Improvement

# Assessment analytics: Blind spot

## Analytics instead of assessment

- Constructivist learning theory

## Data reliability

- Inter- and intra-rater reliability
- Validity of assessment design

## Data availability

- Paper-based marking
- Not enough granularity

# Electronic Assessment Management

E

A

M

Assessment analytics

```
graph TD; A[Assessment analytics] --> B[Students]; B --> C[Academic staff]; C --> D[Institution];
```

Students

Meaningful

Investment

Guides behaviour

Academic staff

Expertise

Adds value

Informs practice

Institution

Evaluation

Retention

Recruitment



## Marking

- Final mark
- Assessment criteria
- Common comments/errors

## Feedback

- Final mark
- Assessment criteria
- Map Learning Outcomes

## Originality checking

- Unoriginal text sources

## Automatic marking

- MCQ
- Short answer/free text

## Certification

- Discriminate between levels of achievement and students
- Selection for further study and employment
- License to practice

## Student Learning

- Motivating students, steering their approach
- Inform teaching strategies

Assessment of learning

## Why assess?

Assessment for learning

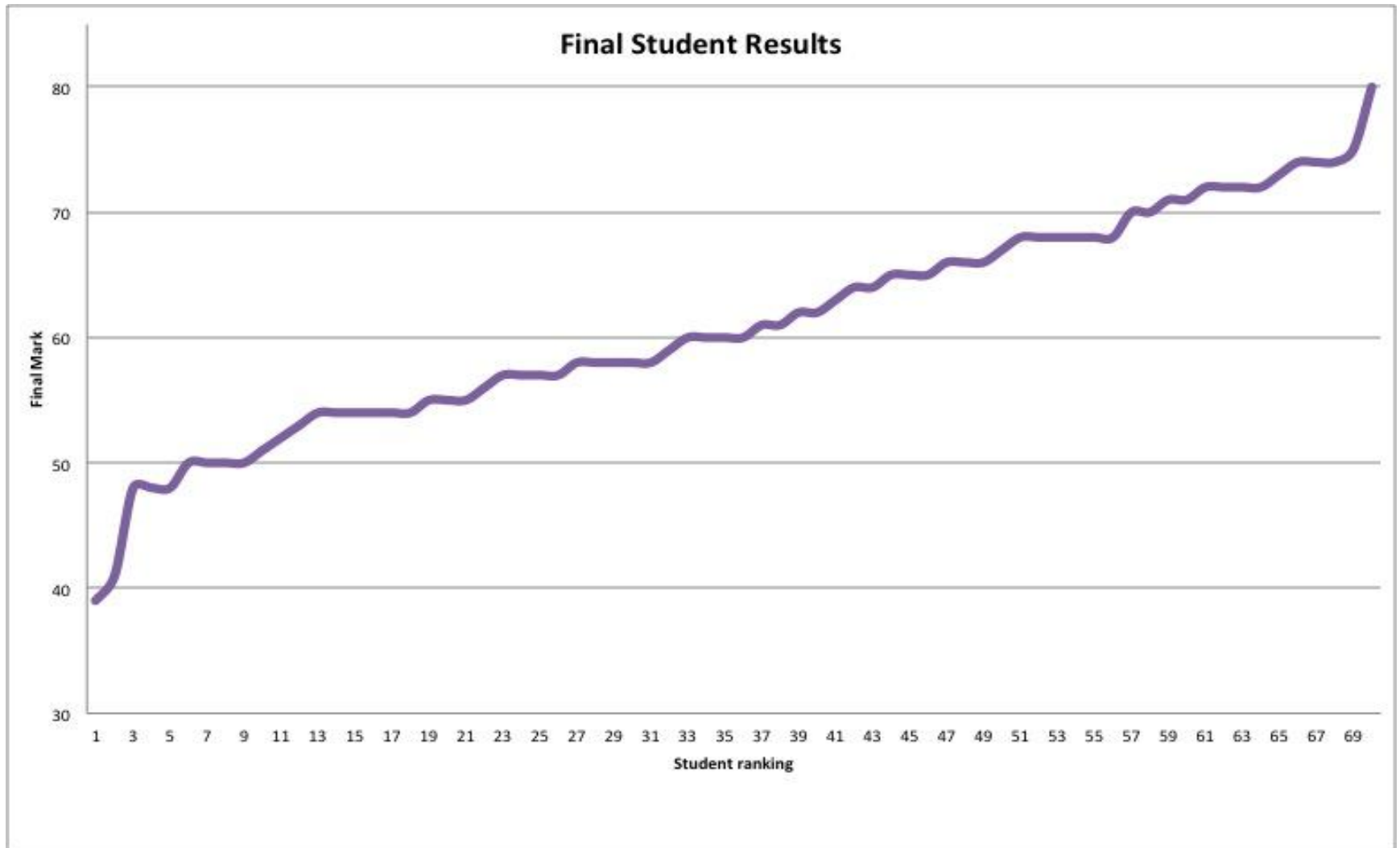
## Quality Assurance

- Evidence for stakeholders
- Judge standards

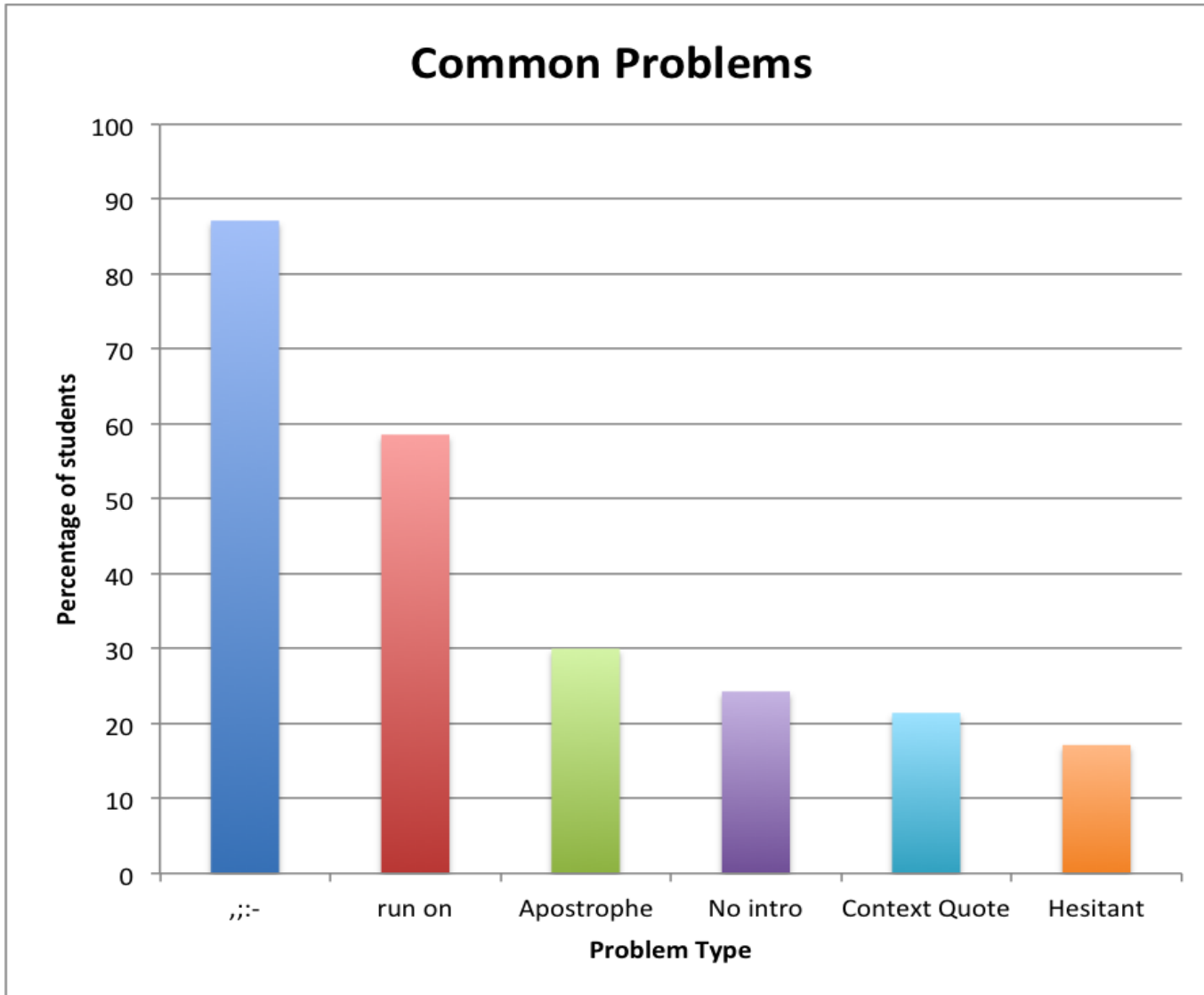
## Lifelong Learning

- Encourage skills development
- Self-evaluation and self-regulation

# Motivating Students

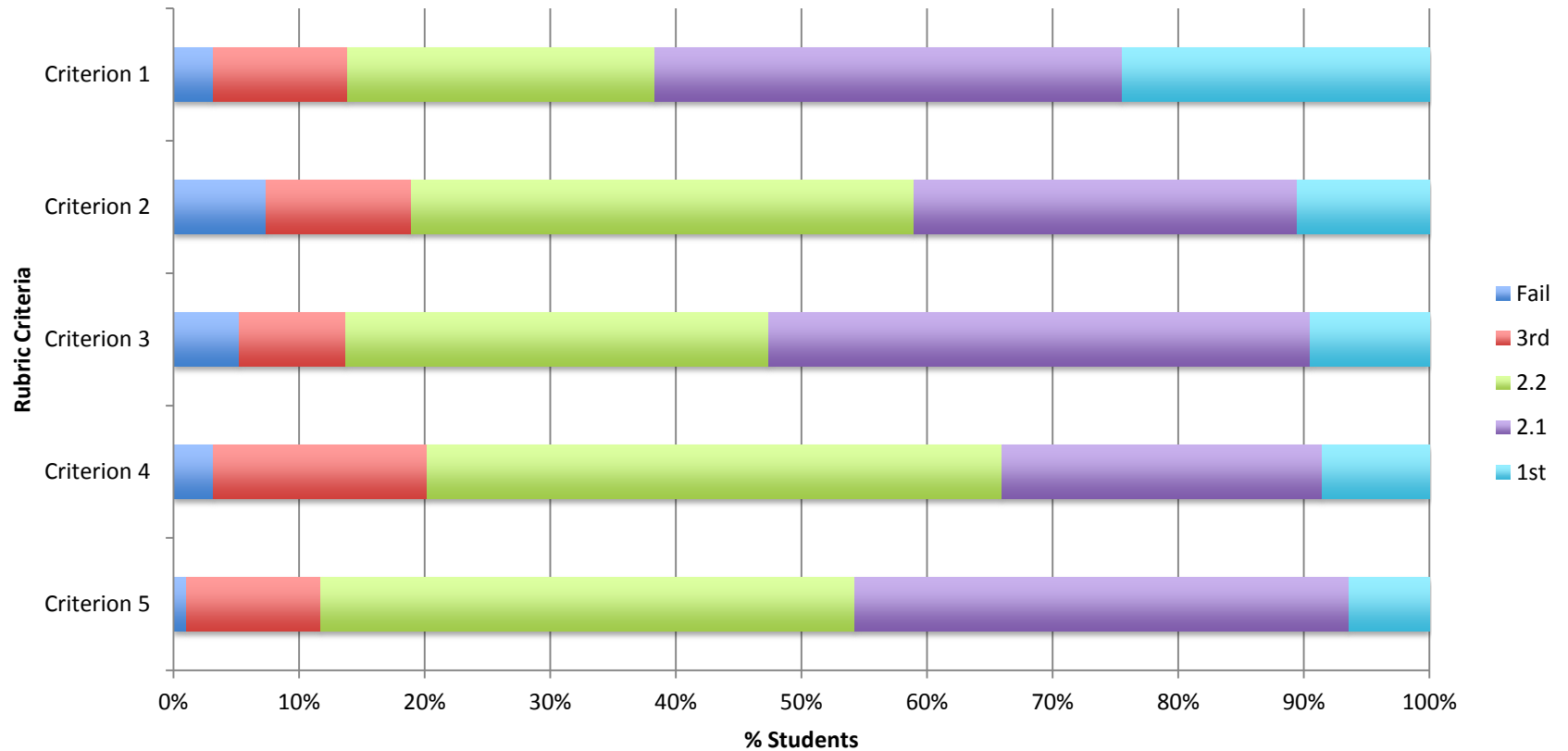


# Skills development



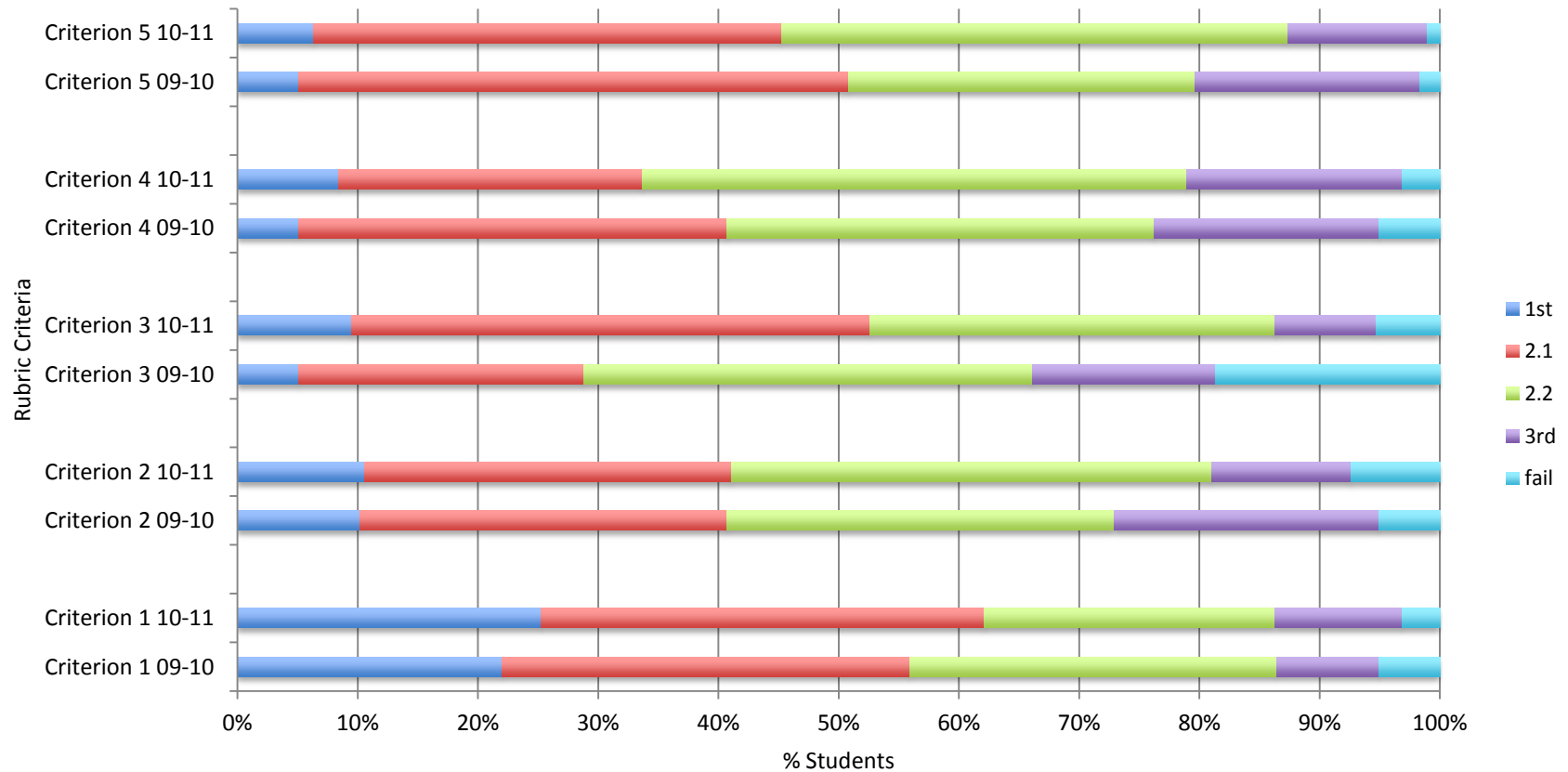
# Discriminate between levels

## ICCT Summative One Rubric Results 2010-11

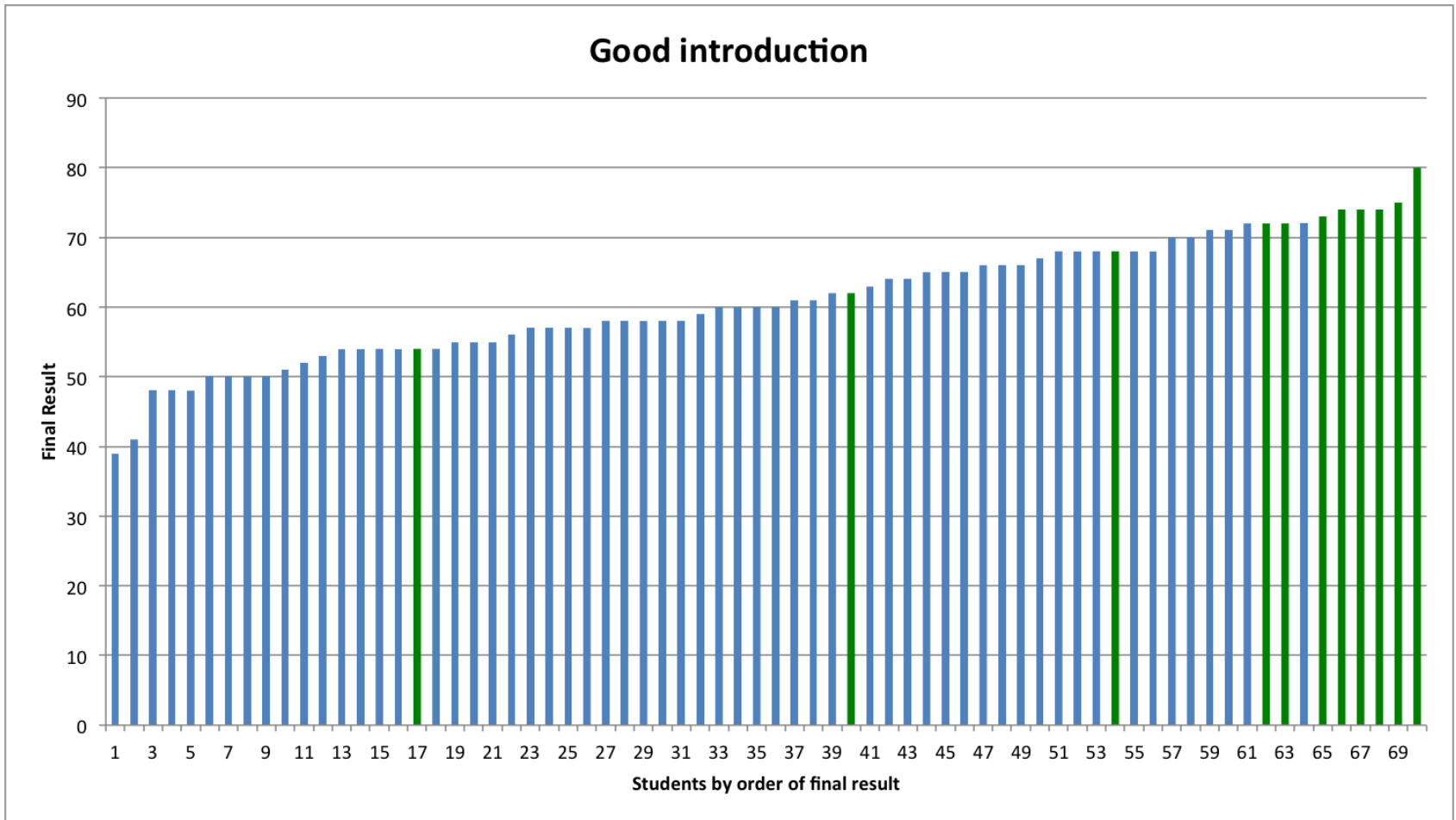


# Inform teaching strategies

2009-10/2010-11 Rubric Result Comparison

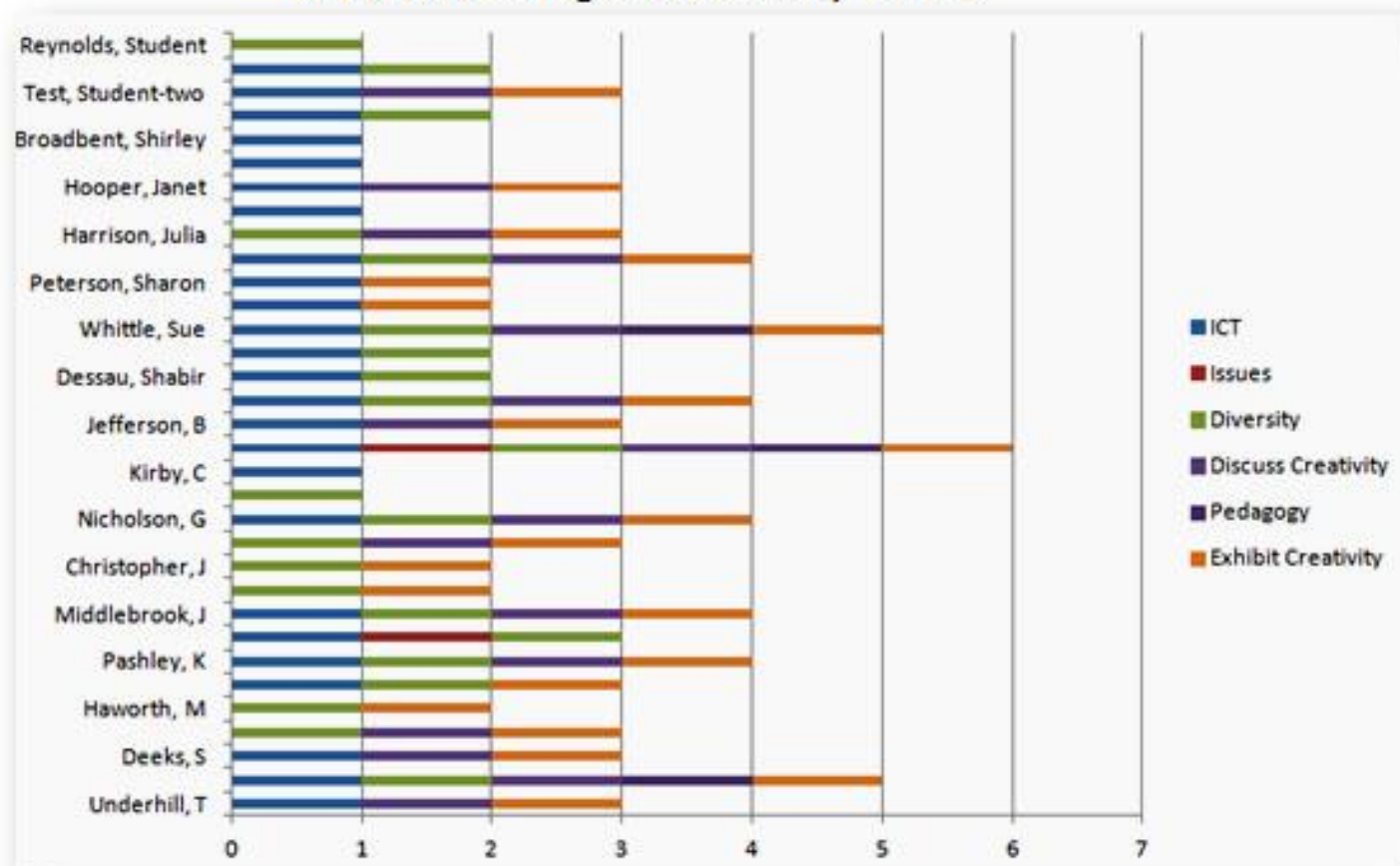


# Motivating students



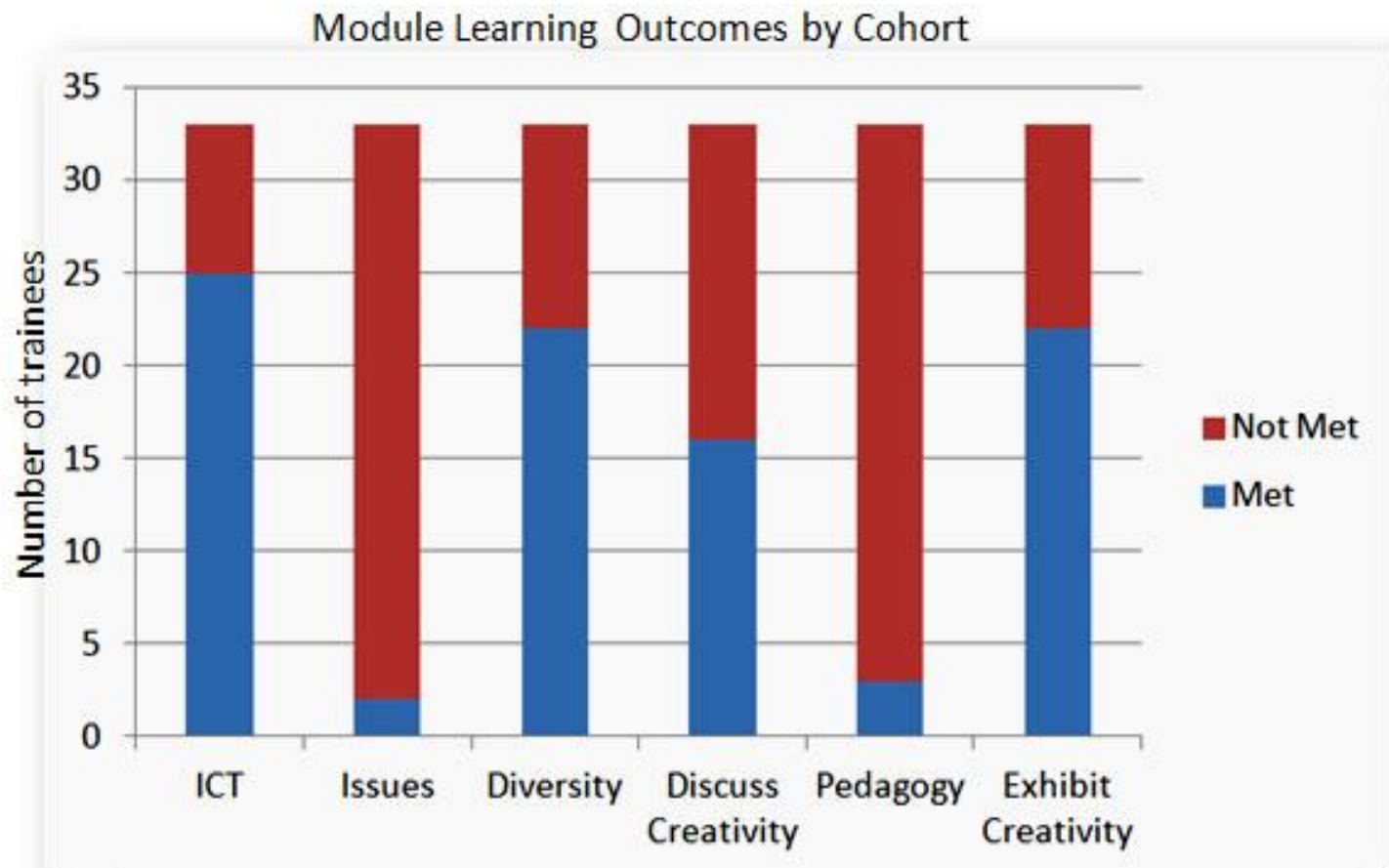
# License to practice

Module Learning Outcomes by Trainee





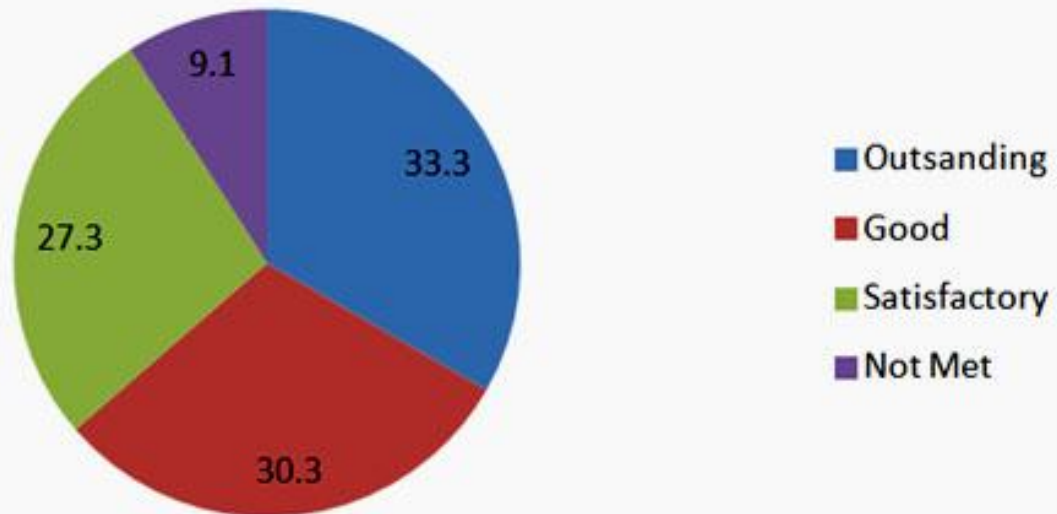
# Evidence for stakeholders



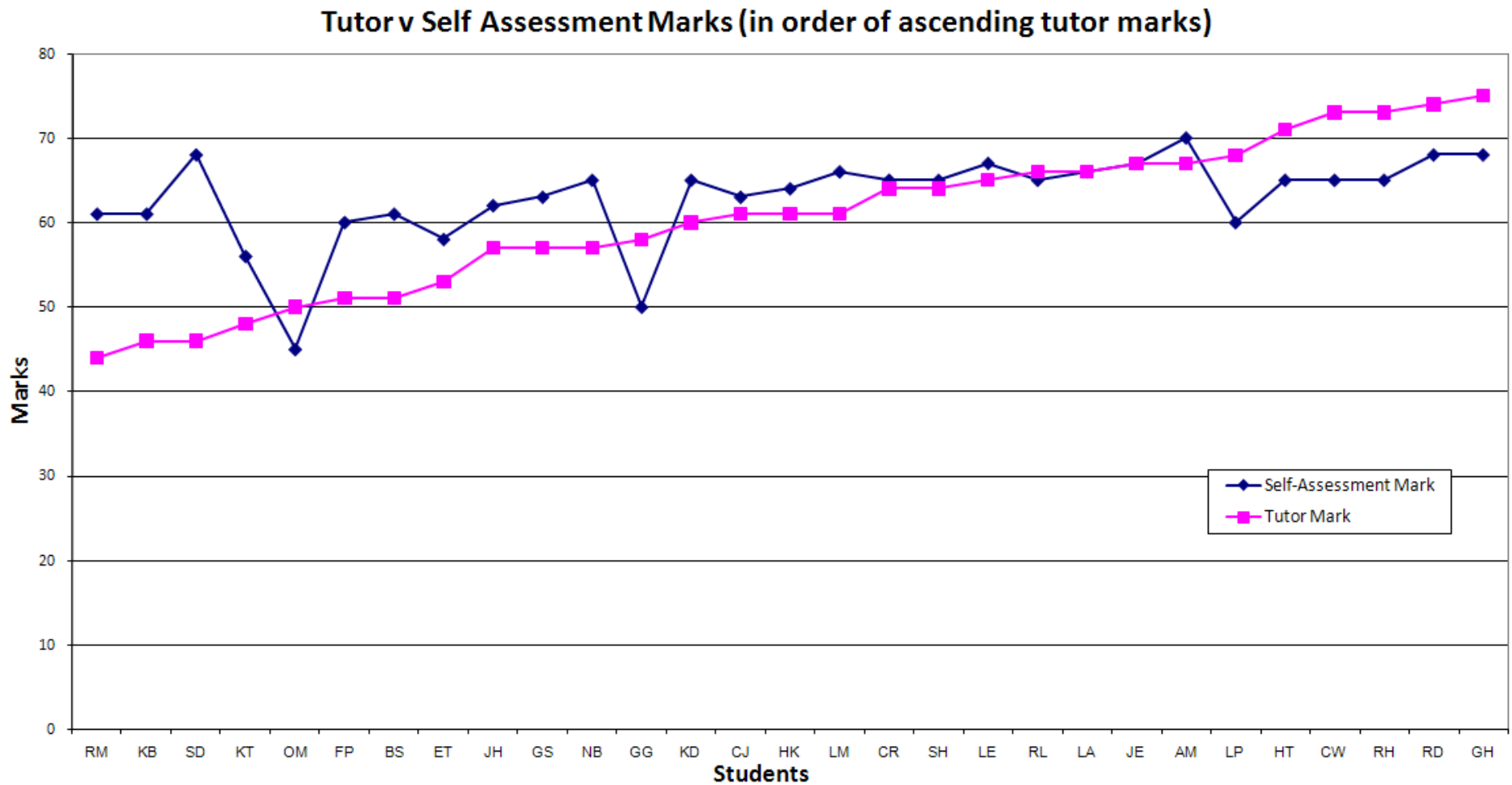
# Judge standards

Depth of subject knowledge

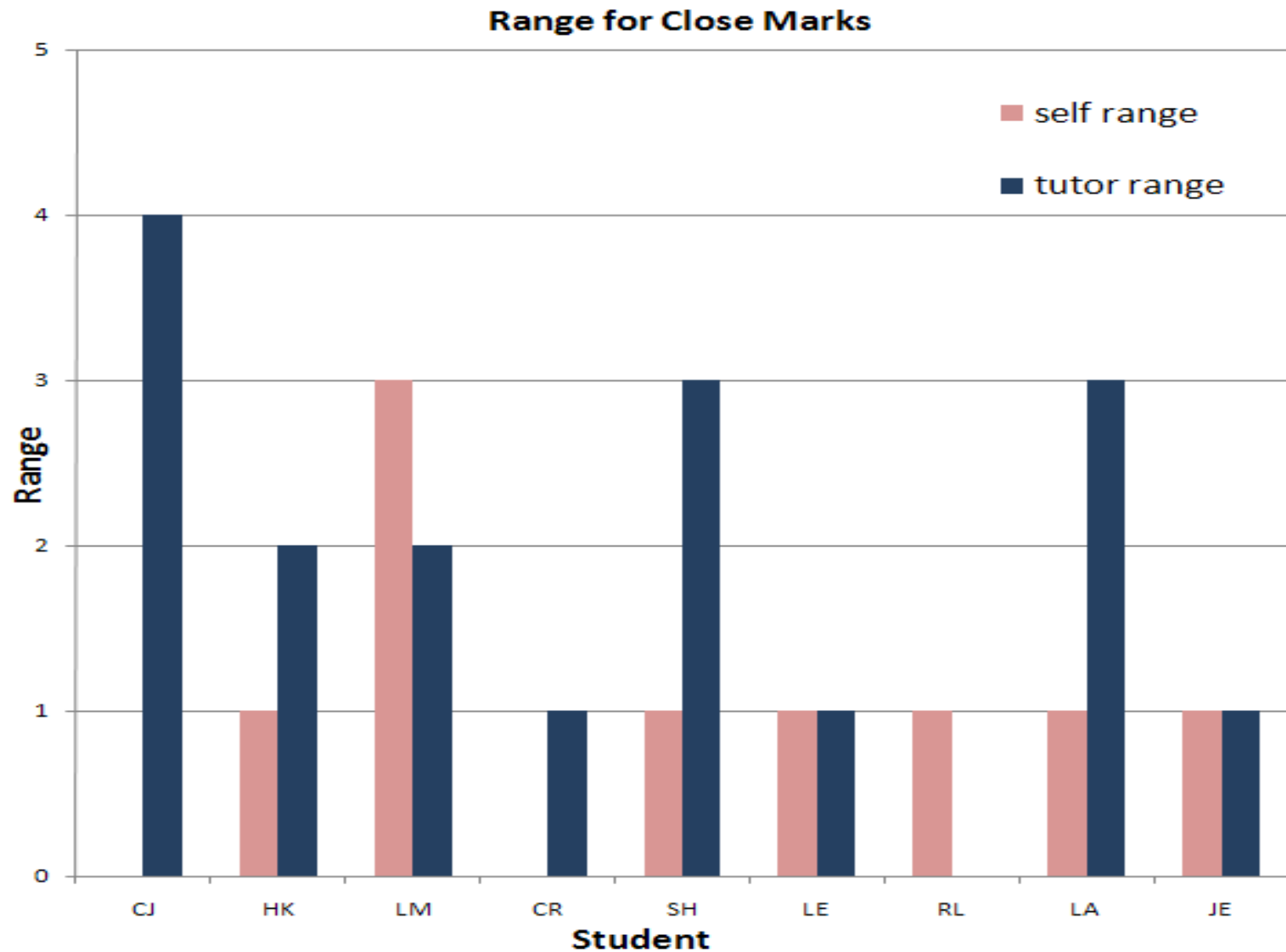
In Lessons %



# Self-evaluation



# Granularity



# References

- Bloxham, Sue, and Pete Boyd. 2007. *Developing Assessment in Higher Education: A Practical Guide*. 1st ed. Open University Press.
- Ferguson, R. 2012. *The State of Learning Analytics in 2012: A Review and Future Challenges*. Technical Report. UK: Knowledge Media Institute, The Open University.