



NHS

Health Education North West

PASS

PREDICTING AND SECURING SUCCESS



PASS Project

Benchmarking in Higher Education

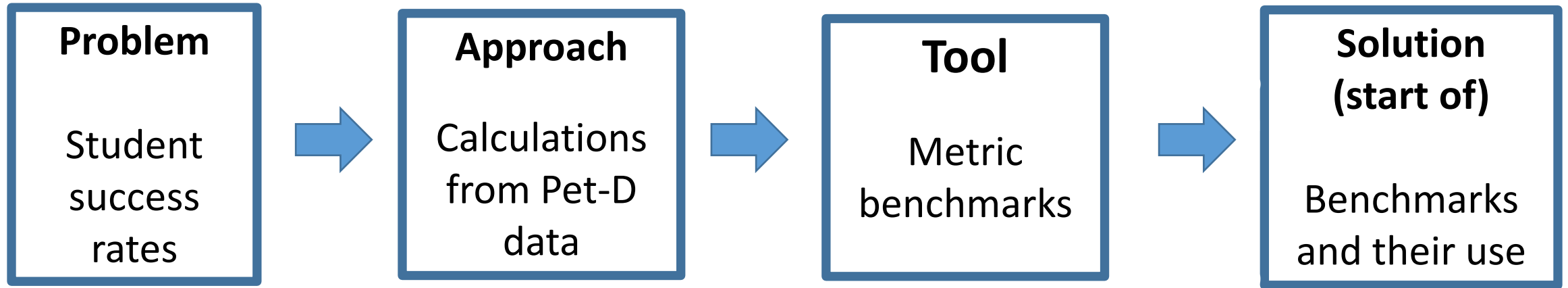
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Approaching the problem



Student Success



Student success rates

- Currently in the UK, about 8% of students leave their courses within the first year of study, but about four or five times that number consider withdrawing (HERE Project 2012).
- The overall drop-out rate for a university is accepted as being one indicator of its efficiency (HESA, 2013).
- BIS (2014) suggests that relatively high rates of withdrawal indicate that higher education institutions are not utilising their resources in the most effective manner.

Core Higher Education Resources

1. BIS (2013) Learning from Futuretrack: Dropout from higher education. Research Paper 168. Department for Business, Innovation & Skills, UK.
2. Woodfield, R. (2014) Undergraduate retention and attainment across the disciplines. Higher Education Academy, York.
3. Yorke, M., and Longden, B. (2008) The first-year experience of higher education in the UK - Final report. Higher Education Academy, York.
4. Foster, E., Lawther, S., Keenan, C., Bates, N., Colley, B. and LeFever, R. (2011) The HERE Project Final Report [online; also cited as 'HERE Project'].

Core Nursing Education Resources

1. Mulholland, J., Anionwu, E. N., Atkins, R., Tappern, M. & Franks, P. J. (2008). Diversity, attrition and transition into nursing. *Journal of Advanced Nursing*, 64(1), 49–59.
2. Prymachuk, S., Easton, K. & Littlewood, A. (2009). Nurse education: factors associated with attrition. *Journal of Advanced Nursing*, 65(1), 149–160.
3. Dante, A., Valoppi, G., Saiani, L. & Palese, A. (2011). Factors associated with nursing students' academic success or failure: A retrospective Italian multicenter study. *Ynedt*, 31(1), 59–64.
4. Hamshire, C., Willgoss, T. G. & Wibberley, C. (2013). Should I stay or should I go? A study exploring why healthcare students consider leaving their programme. *Nurse Education Today*, 33(8), 889–895.

FACTOR <u>National projects</u> <u>(many subject areas)</u>	BIS (2014) (withdrawal)	Woodfield (2012) (withdrawal)	Yorke & Longden (2008) (withdrawal)	HERE Project (2012) (doubting)
Age	☒	☒	☒	☒
Gender	☒	☒	☒	☒
Disability status		☒	☒	
Ethnicity	☒	☒	☒	☒
Home country		☒		
Socioeconomic status	☒	☒	☒	
Parental occupation	☒	☒	☒	
Family HE experience	☒	☒	☒	
Qualifications prior to entry	☒	☒	☒	☒
HE institution	☒		☒	☒
Subject	☒	☒	☒	☒
Home region	☒	☒	☒	
Accommodation			☒	☒
Distance from family home	☒	☒		☒
Advice sources prior to entry	☒			
Academic achievement post entry		☒		
Placement				
Finance	☒	☒	☒	☒
Family commitments				
Work whilst studying			☒	

FACTOR Nursing Courses	Prymachuk et al (2009)	Mulholland et al (2008)	Dante et al (2011)	Hamshire et al (2013)
Age	☒	☒		
Gender	☒	☒		
Disability status				
Ethnicity	☒			
Home country		☒		
Socioeconomic status				
Parental occupation				
Family HE experience				
Qualifications prior to entry	☒			
HE institution				
Subject	☒			
Home region				
Accommodation				
Distance from family home				
Advice sources prior to entry				
Academic achievement post entry			☒	
Placement	☒			☒
Finance				☒
Family commitments			☒	☒
Work whilst studying			☒	☒
Career attitudes			?	?
Intention to leave			☒	☒

Pryjmachuk *et al.* (2009)

Less likely to complete the programme

- Younger
- Minimum educational qualifications



Some evidence of 'increased risk of resigning'

- Male and black/minority ethnic
- Student's placement
- Taking the child branch



Hamshire et al. (2013)

Students that considered leaving described a **combination of diverse factors** combined. Three distinct themes associated with considering withdrawal:

1. dissatisfaction with academic workload and support
2. difficulties associated with clinical placements (see Hamshire 2011)
3. personal concerns and challenges

Conclusions

- **Complex picture** that shows many factors may play a role, for example; age, ethnicity, background (e.g. socioeconomic, parental experiences), qualifications, disabilities, 'will to succeed' and resilience, guidance with course selection, geography and wider support.
- Nursing has its own **unique characteristics** and is a challenging profession, for example the clinical placement experience may be crucial.
- Therefore we have only **partial coverage** of the information that influences student success rates.

benchmark

/ˈbɛn(t)ʃmɑːk/ 

noun

1. a standard or point of reference against which things may be compared.

Benchmarking

“A process through which practices are analysed to provide a standard measurement (‘benchmark’) of effective performance within an organisation. Benchmarks are also used to compare performance with other organisations and other sectors”

- Commonly used in private sector for comparisons (e.g. operating costs)
- Many different approaches, all purport to identify factors that are comparable between systems and can be reliably measured/compared.
- Choice of variables is key, but issues with validity and data availability.



Education and Health sectors

- Two public sector areas that have been subject to significant performance comparison are education and health, leading to league tables of performance and pressure to score highly in a suite of performance indicators (Draper & Gittoes 2004).
- PASS Project ticks both boxes.
- Sectors routinely collect data on student characteristics (e.g. Pet-D; HESA).



Ten good reasons...

(source: JISC)

A way to get a sense of performance in relation to others by strengthening an institution's ability to:

1. Self-assess **its performance**
2. Understand **processes** that support strategy formulation
3. **Measure against** other institutions and assess **reasons for differences**
4. Encourage **discovery of new ideas**
5. Obtain **data to support** decision-making
6. Set effective **targets** for improvement
7. Strengthen institutional **identity**, strategy formulation and implementation
8. **Enhance** reputation
9. **Respond** to other performance indicators and benchmarks
10. Set **new standards** for the institution and sector



Key features of benchmarking - categorised in themes surrounding attributes, outputs, outcomes and key products. *The key products are a derivation of, and limited to, three suggestions proposed by Jackson (2001).

Attributes	Outputs of the activity	Outcomes of the activity	Key products*
Systematic , organised, structured	Challenging and attainable goals	Improved performance	Improved networking, collaborative relationships and mutual understanding between participants
Continuous , ongoing, long term	Realistic courses of action	Organisational improvements	Benchmark information in the form of text, numerical or graphical information about the area of study
Formal	Identification and documentation of best practices	Improved competitive position	Better understanding of practice, process or performance and insights into how improvements might be made
Consistent	Identification of gaps in performance	Adaptation of best industry or world-class practices	
Analytical	Identification of future priorities	Adoption of good features of products, processes or services	

Types of benchmarking activity

There are many types of benchmarking processes in the literature, and in an educational context JISC provide a useful guide of potential benchmarking typologies:

<http://www.jiscinfonet.ac.uk/infokits/benchmarking/what/>

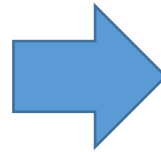
***We would like to distinguish just two of these:
'METRIC' and 'PROCESS'***

Metric benchmarking (ie the numbers)

Information to identify performance gaps, not necessarily an understanding of explanatory factors

Help focus resource on areas for exploration.

Usually compare one's own performance statistics with another.



Process benchmarking (ie what is done with the numbers)

Uses metric benchmarks as a basis for understanding performance gaps, together with other local information.

Involves discussion of processes to effect changes.

Most often requires a collaborative effort between functional units within an organisation or with other organisations with the aim of identifying/implementing best practices.

PASS Project

- Input-Output model
- Inputs are available data from Pet-D (2008-2011)
- Output is **student qualification**
- Select factors for inclusion using **machine learning**
- Calculate metric benchmarks using **weighted averages**
- Accompanying qualitative enquiry to help interpretation
- Creation of user-friendly resources

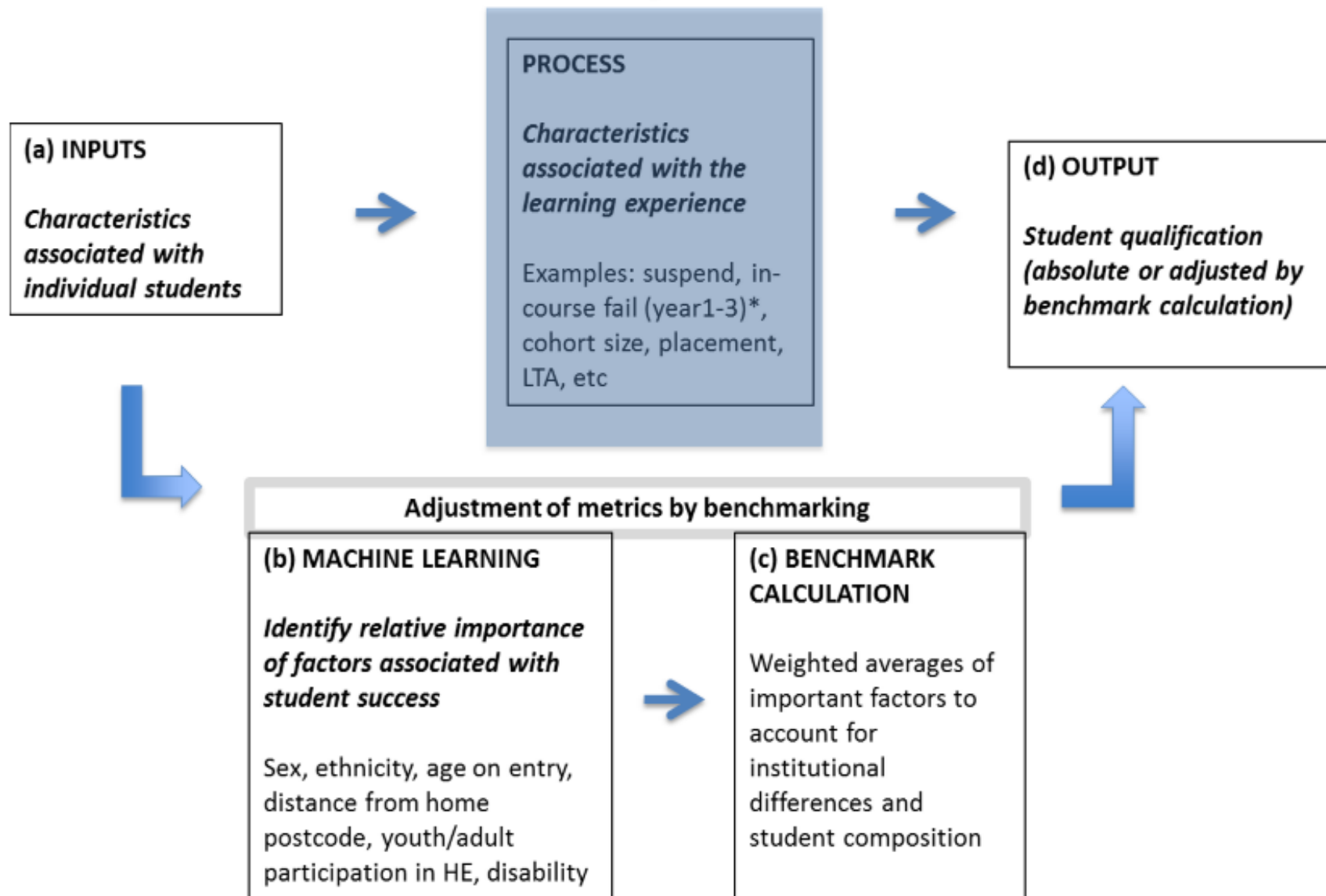


Figure 1. Conceptual model of the input-output processes used to create benchmarks from the available dataset (inputs). The simplified structure does not include the iterations of the computations used for the metrics (adjusted outputs).

Please note

No model/benchmark of this type is perfect. For example, available data limit the factors available for selection, including years data acquired (e.g. *'what was true then, may not be true now'*).

- Machine learning is a new approach to benchmark factor selection (but a more sophisticated method).
- There are many ways to calculate weighted averages (e.g. number of factors involved, what is required from the calculation).



Questions?

