

SHORT COMMUNICATION

ROLE OF 'REDUNDANT' OR 'PSEUDO' CLINICAL VIGNETTES IN FORMATIVE ASSESSMENT.

P K Rajesh

Faculty of Medicine, AIMST University, Malaysia

Corresponding Author

Prof. Dr. Perumbilavil Kaithamanakallam Rajesh
Faculty of Medicine, AIMST University, Malaysia.
Email: rajesh@aimst.edu.my

It is true that though students can escape bad teaching they would still be victims to bad assessment.¹ Assessment based on real life happenings, issues which the student would find themselves during the vocation they are being trained for is the ideal assessment method rendering validity and authenticity.² They are also termed as fit for purpose 'assessment tasks'.³

We speak of, **Assessment of learning** often referred to as 'summative assessment' used to grade students. **Assessment for learning** or 'formative assessment' is done to inform the learners their level of academic progress⁴.

Students can utilise examinations to be aware of their strengths and deficiencies. With prompt feedback received from their teachers they can improve their academic abilities⁵. The onus is in the form of the assessment and how the information gathered is used to improve teaching and learning⁶.

Assessment as learning happens when the assessment is used to instruct the learners.⁶ Students are more focussed during assessments than during the teaching learning sessions. Use of clinical scenarios, meaningful questions and prompt feedback can make learning and assessment aligned.⁷ Use of clinical scenarios

which do not reflect real life scenarios would not be beneficial to the learners. For these questions with the redundant scenarios, the learner needs only to read the lead-in statement to answer the question.⁸

To cite an example:

A 40 year old male with AIDS develops intractable diarrhoea. 1% modified acid fast staining reveals the presence of an acid fast oval protozoa. The organism is identified as:

- A. *Pneumocystis jiroveci*
- B. *Cryptosporidium hominis*
- C. *Entamoeba histolytica*
- D. *Mycobacterium avium intracellulare*
- E. Rotavirus

The above question with a 'redundant' scenario; the student needs only to read the lead-in in order to answer the question ignoring the pseudo clinical scenario. A direct way of asking this question would be 'Which among these organisms are modified acid fast?'

However, the question serves **AS** learning, linking AIDS and intractable diarrhoea with an opportunistic infection.

During a low achievers counselling session, at the university I am affiliated to, a year two student stated that while basic facts are taught in teaching learning sessions, clinical vignette-based questions are asked in the formative assessments. The students felt that more practice or mock scenario questions would make them better prepared for the formative assessment. The learner was addressing a perceived gap and non-alignment between the teaching sessions and the examination. Though the student's argument here may not be relevant, the feedback cannot be ignored. Would the pseudo clinical vignettes, considered ineffective, serve as an interphase between the teaching sessions and the formative assessment? The basic science question then would be clear to the novice student and the pseudo clinical vignette (without which the learner can still answer the question) would serve as assessment for learning.

Example of a basic science fact as taught in class

This is a question that features from a session on 'Basic bacterial physiology'. The intended learning outcomes include

Describe the relationship of different bacteria to their nutritional requirements, oxygen, and temperature and pH demands

The basic question-**Which one of the following bacteria grows well in colder temperature?**

- A *Listeria monocytogenes*
- B *Clostridium botulinum*
- C *Salmonella typhimurium*
- D *Bacillus cereus*

Example of how the same topic could feature in the formative assessment

Psychrophiles are bacteria that grow and multiply in low temperature. Storage of psychrophiles

contaminated dairy products and meat in the refrigerator can increase the risk of gastroenteritis and diarrheal outbreaks.

Which one of the following bacteria grows well in colder temperature?

- A *Listeria monocytogenes*
- B *Clostridium botulinum*
- C *Salmonella typhimurium*
- D *Bacillus cereus*

Another example of a question which would make the learner realise the significance of and apply a basic science fact.

Gastroenteritis (diarrhoea and vomiting) due to *Vibrio* species are associated with sea food intake. *Vibrio* is a/an

- A Acidophile
- B Neutrophile
- C Alkalophile

Assessment **AS** and **FOR** learning is known to influence higher order thinking skills in the students.⁹ Most literature strongly recommends the use of assessment as a scope and as an opportunity to reinforce and enhance learning.¹⁰

Medical students will benefit from questions which require a meaningful sequence, an algorithm, a right approach, an immediate response to a clinical situation.

For instance questions like 'Explain tetanus' is best avoided. Even better framed questions like 'Describe the post exposure prophylaxis of tetanus' does not specify the exact scenario. Stating a specific clinical scenario where a patient has been exposed to tetanus and what would be needed to be done then would serve as an ideal assessment.

For instance, neonatal tetanus prophylaxis will differ from the prophylaxis of an adult who was involved in a road traffic accident. A pseudo scenario is better than no scenario. More information about the use of pseudo clinical vignettes as an interim between teaching basic science facts and testing with clinical scenarios in the formative assessment will serve as a needs analysis before implementation.

References

1. Boud D. Assessment and learning: Contradictory or complementary? In P. Knight (Ed) *Assessment for Learning in Higher Education* (1995), 35-48.
2. Simpson.J, Authentic Learning – Does It Improve Pass Rates and Student Satisfaction?. *Journal of perspectives in applied academic practice*. (2016) 4:2, 62-70.
3. Dijkstra, J., Galbraith, R., Hodges, B.D. et al. Expert validation of fit-for-purpose guidelines for designing programmes of assessment. *BMC Med Educ* (2012) 12, 20 doi:10.1186/1472-6920-12-20
4. Wiliam D. What is assessment for learning? *Studies in Educational Evaluation* (2011). 37: 3–14
5. Black P and William D. Assessment and classroom learning. *Assessment in Education*. (1998), 5: 7–74.
6. Dann R. Assessment as learning: blurring the boundaries of assessment and learning for theory, policy and practice. *Assessment in Education: Principles, Policy & Practice*, (2014).21:2, 149-166.
7. Malau-Aduli B S, Lee. AYS, Cooling N, Catchpole M, Jose M, Turner R, Retention of knowledge and perceived relevance of basic sciences in an integrated case-based learning (CBL) curriculum. *BMC Medical Education*, (2013) 13:139
8. Smith P E M, Mucklow J C. Writing clinical scenarios for clinical science questions. *Clinical Medicine*. (2016)16: 2: 142–5
9. Van Der Vleuten C P M, Dolmans D H J M., Scherpbier A J J A. The need for evidence in education. *Medical Teacher*.(2000).22:3, 246-250,
10. Kulasegaram K, Rangachari P K. Beyond ‘formative’ assessments to enrich student learning. *Adv. Physiol. Educ*. (2018). 42:5-14.