

## *Full Length Research Paper*

# **A comparison of an oral assessment with a traditional paper exam within a final year nutrition module**

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**A final year nutrition assessment (37 students) using oral viva was compared to the previous year's written paper. 14 students were asked to provide feedback on their experience of the oral viva. There appears to be no statistically significant difference between the mean marks of each assessment. Students expressed a range of views on the experience of the oral viva, but focussed on two main themes which are then briefly explored: oral viva would serve well in employment because of its 'real life' nature and oral viva is more anxiety provoking than a paper - based assessment.**

**Key words:** Oral examination, oral communication, oral assessment, oral viva, nutritional assessment.

## **INTRODUCTION**

Beard (2006) asked students what they thought lecturers would be best to do more or less often in their teaching; students responded that relevancy and reality were important issues. If students don't see the relevancy of an activity to them does this then negatively affect their engagement with the learning? Students involved in the present investigation are training to become nutritionists and anecdotal suggestions from them indicate a feeling that not all learning on their programme seems real or relevant. It is in part reflection on this and a seemingly high prevalence of dyslexia amongst the students that leads to the present preliminary investigation into oral viva as a valid tool for assessment.

If reality is an aim of assessment then perhaps three hour written papers do not answer the call. Papers may well be relevant and useful for exploring students' knowledge and their writing ability but they bear little resemblance to the day to day work of nutritionists who often carry out their role through oral communication with groups and individuals. It has been suggested that performance - based assessment attempts should be as authentic as possible (Tombari and Borich, 1999) and it is with this in mind that many oral assessments are undertaken. The module under discussion here attempts to provide an assessment that re-creates real-life situations.

Oral examinations have been used historically to assess students at different levels; the health professions have for

instance used oral examination for hundreds of years (Swanson, 1995). Swanson provides 'lessons learnt' from the arena of performance - based assessment in general and suggests that irrespective of the examiners efforts in re-creating reality this is an assessment and only a simulation of reality; 'examinees do not behave in the same way they would in real life' (Swanson, 1995 p.7). Although arguably a nutritionist meeting a client (and presumably wanting to present a professional demeanour) may not behave as they would in 'real life'. When considering this it begs the question what is real life? Assessment using a written paper is common for this particular cohort of students - this exploratory work serves as a comparison between two formats in which one thing has changed and another has stayed the same. The lecturer, curriculum and teaching methods are the same but the assessment tool is different. The cohorts of students compared are similar in size (39 v 37) as are entry qualifications and academic attainment. It is still an exam with the preparation and anxiety associated with sitting an exam but the mode has changed from written to oral. This investigation seeks to discover whether the students perform as well as the previous year's cohort, who studied the same material but were assessed with a written exam. A brief exploration of the students' experience of the oral viva is included with the intention of using this data to form the basis of further investigation into the use of oral assessment.

Joughin (2004) discusses the pros and cons of oral assessment and provides tips for successful oral assessment as well as an indication of which parameters are best assessed orally. In the case against using oral assessment he includes the difficulty of justifying a mark in the absence of written evidence which may be problematic for the purpose of external examination. Gibbs and Habeshaw (1988, cited in Joughin, 2004) note that there may also be problems when asking students to perform a skill in which they have little experience. Joughin's (2008) tips for successful oral assessment include: planning, learning from others' experience, preparing the students, preparing colleagues, fairness and efficiency.

As tutors are encouraged to be more innovative in their assessment, (Bryan and Clegg, 2006; Mowl, 1996) oral based assessment including the use of information technology may become more of a feature in University assessment. It has been suggested that students may find oral performance of this kind more challenging than the written format and that this type of learning leads to better learning and understanding (Joughin, 2008). Oral assessment appears to be a neglected area of analysis in nutritional education. The work of Joughin (2008) has highlighted comparison of oral presentations (within a theology course) with written assignments. The present study contributes to the research in this area and focuses on students who are seeking employment which involves a strong element of oral communication. Biggs (2003, p1.) makes a valid point when discussing the mismatch between guidelines used to define courses and the reality of how they are taught/assessed:

'So often the rhetoric in courses and programmes is all it should be, stating for example that students will graduate with a deep understanding of the discipline, and the ability to solve problems creatively. Then they are told about creative problem solving in packed lecture halls and tested with multiple - choice tests'.

Biggs' (2003) focus on teaching and course objective alignment and Beard's (2006) concern over 'real and relevant' inform the present paper. Students needed, in this assessment, to tackle ad hoc questions on exercise nutrition and show verbal communication skills, e.g. clarifying/investigating misunderstandings in the clients' knowledge of the subject.

The research question focuses on the following 3 points:

- Is oral viva a more 'relevant and real' activity than a written paper?
- How do similar cohorts of students perform in oral viva versus written exam?
- What do students perceive to be the overall pros and cons of an oral viva?

## METHODOLOGY

The module was titled Advanced Exercise Nutrition and the final assessment for the module (50% of the total mark) was carried out using 25 minute oral viva examination using a lap-top computer linked to a web-cam. The computer generated random questions and the student's subsequent responses were recorded via the lap-top computer. The web-cam recordings were saved to the hard drive of the computer and to a compact disk for internal and external examination, students signed a form to agree to have their assessment recorded and to agree that this would be distributed to internal and external examinations teams. The oral viva was immediately followed by five - minute interviews in an attempt to gain insight into the student's experience of the oral viva and their experience of this assessment comparative to a paper based assessment. Interviews were conducted with 14 students from a cohort of 37 and the 37 recorded marks were then measured against 39 written paper marks from the previous year.

The sample was drawn by placing all students ID numbers into a hat and then drawing fourteen out. Both the time allowed for the post - exam interview and the number of subjects were chosen for convenience. The module underpinning this assessment was taught over two semesters. The cohort participated in a one - hour lecture each week, a seminar every week and three, three hour practical sessions throughout the two semesters. There were two over - arching learning objectives for the module:

- To develop a strong core knowledge of the topic
- To develop communication skills (both oral and written)

Both written and oral skills are trialled in the assessment for the module - these could be said to be formative assessments, in that they help inform and prepare the student for the final assessment. Although Cowan (2006) points out this is not really formative assessment as the assessments are graded and affect the final mark. The exam is, however, a summative evaluation in that it is final and decisive, as far as grades are concerned. The nutrition exam questions were open ended, e.g. 'I am running my first half - marathon could you advise me on what to eat before the race?' Marking grids were prepared that included prompts and re-phrased versions of each question should it seem that the student had 'dried up'. Within the faculty, only one other module was identified that had a strong element of oral assessment in a final year module. For this final year nutrition module students worked with a communications tutor in preparation for the oral exam. Mock oral exams were carried out in seminars, where students peer assessed each other on at least two occasions, using both the prompts and marking grids that were to be used in the real exam.

Joughin (2004) suggests that oral assessment should be made as short as possible and that short interviews may yield much more information much more quickly than a written examination. Swanson (1995) suggests oral exams typically take from 30 min to two hours to complete using 1 to 5 examiners. The present investigation is based upon an oral exam; each exam lasted 25 min and used three investigators. Two questions were asked relating to the students experience of being involved in the exam:

- What do you think the pros and cons of an oral viva are?
- and - How do you feel this assessment compares to a written paper?

### Front loading

All students had been given the explanation that these five minutes did not form part of the assessment and would not affect their mark in any way and that they also had the right to refuse to partake in the interviews without giving reasons for their refusal. During the module, two teaching sessions were carried out with the help of a

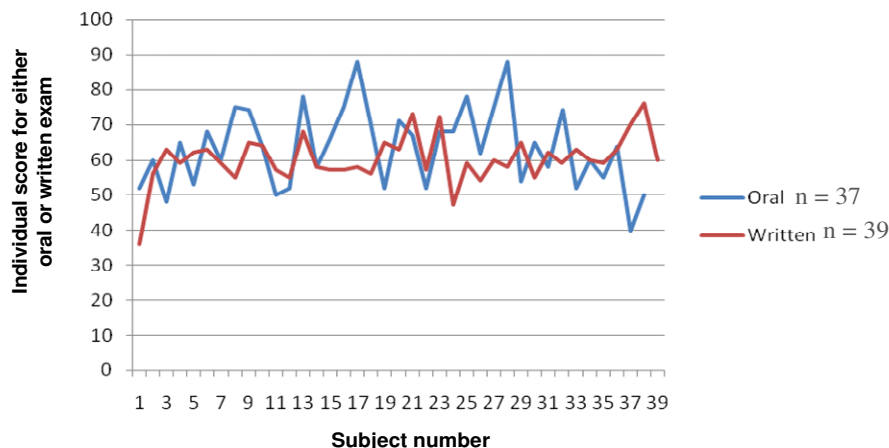


Figure 1. Represents the spread of scores between the oral and written papers.

psychoanalyst who focussed on communication skills and potential anxiety during a viva exam.

**RESULTS AND DISCUSSION**

The areas of knowledge and understanding in the field of exercise nutrition were under scrutiny using this oral viva, together with the student's ability to communicate orally. Indeed employment and success in this field could well depend upon the student's oral communication ability - as this is often the way in which knowledge and understanding are shown, both at interview and in the practical employment setting. The students responses were analysed and sorted into the following 4 themes: anxiety relative to paper based assessment, advantages, disadvantages and relation of the assessment to impending employability.

Initially the mean values for both the paper exam (2007) and the oral viva (2008) were analysed statistically to identify any difference in mean values for exam scores. The mean value for the paper based exam (60.2) and the oral exam (63.3) were analysed with an independent samples t - test. Equal variances were not assumed according to Levene's test for equality of variances. There was no significant difference (Sig. (2 tailed) = .141) between the paper and oral exam values (Figure 1)

**Anxiety relative to paper based assessment**

The issue of anxiety in relation to an oral assessment of this nature has been previously discussed by Phillips (1992). In health science and language study, it can be argued, this type of assessment is essential. In the assessment under analysis students are training to become nutritionists often working with groups and individuals to offer dietary advice/counselling. A key question in this analysis relates to whether the students

found an oral assessment more anxiety provoking than a more traditional paper based assessment. The numbers at the end of each quote relate to a subject number given to each interviewee during transcription. Several subjects mentioned as the first response to the question on how the oral viva compared to a written exam: "It was nerve wracking"<sup>1,2,3,8</sup>. In relation to the relationship between this and paper based assessment subjects only expressed the opinion that the oral viva was more anxiety provoking. Below there is further exploration of this element in relation to preference for the paper based or the oral method of assessment; the comments stated also support the idea that students find an oral viva more anxiety provoking than a written assessment.

**Advantages/disadvantages over a paper assessment**

Naturally some employment situations will mean the worker has to rely on verbal communication skills and in the profession of nutritionist this is often the case. Feelings on the viva relating to the difference between having a person asking questions rather than a written question related to the options for clarification and prompting:

"There is someone to talk back at you - in a written paper if you don't know it - you just sit there but here you prompt me that's a lot better"<sup>11</sup>

There was also a sense that in the impending employment situations this assessment would serve students comparatively well:

The numbers in superscript relate to the subjects/participants who were interviewed in the course of the study and the comments made.

**Table 1.** Shows the results of students from two separate years' cohorts - one assessed using a written paper and one using oral viva.

	<b>N</b>	<b>Fail</b>	<b>3rd</b>	<b>2.2</b>	<b>2.1</b>	<b>1st</b>
Written	39	1	2	18	14	4
Oral	37	0	2	12	13	10
Interviewees	14	0	2	5	1	1

"It is a much more real- life like situation"<sup>13</sup>. Students felt that the choice of oral viva was relevant to their particular situation

"It was useful as it's a more realistic way of getting your knowledge across"<sup>9</sup>

and that in general it was a better preparation for what they would face in employment

"It's a much more real-life like situation"<sup>13</sup>

Perception amongst several subjects reflected that success in the oral viva might well depend upon the skills and personality of the person being interviewed: "*The advantages are this is what we are going to be doing - disadvantage is that it depends upon your personality as to whether you do well or not? i.e. if you are very nervous - although as I said this is what we are training to do*"<sup>3</sup>. Perhaps this would be of greatest concern if assessment became primarily oral in nature, which in the nutrition programme it is not as only two modules at final year have a large element of oral based assessment.

It is accurate to say that there was a clear difference between the students in relation to whether an oral or written assessment was preferred. Some students clearly signalling favour for the oral viva: "*I prefer it to a paper exam, I think its more natural in the type of work we're hoping to get into it's more this kind of interaction...*"<sup>6</sup> "*I'd prefer this to a written exam*"<sup>3</sup> (despite being very nerve wracking) "*it is absolutely essential for a real kind of working situation*"<sup>8</sup> "*I'd prefer this to a written exam when you're talking it's a bit more relaxed I don't perform well in written exams*"<sup>10</sup>. Others however were just as clear in their preference for the traditional paper based assessment: "*I personally would prefer a written exam*"<sup>2,9</sup> "*Because you can (have more time to) think more*"<sup>2,9</sup> this was mirrored by a third subject "*It's more difficult than a written exam as you can write more/think more in an exam*"<sup>6</sup>.

Students made comments on preference that clearly (and upon probing) were related to anxiety/nervousness: "*I don't really perform well in things like this (the oral viva) I'd rather a written paper*"<sup>11</sup> "*I thought I'd of preferred to do this but it was actually much harder than I imagined*" (due to feeling much more nervous than anticipated)<sup>14</sup>.

In a period where numerous assessments are being carried out the task of writing multiple 2 and 3 hour papers may in itself cause problems for some students: "*It's a nice break from writing and I have got real bad fatigue in my hands from writing the other exams this week!*"<sup>8</sup>

If students' concerns over the negative effects on performance due to anxiety are founded: "*this (nerve wracking element) could be a disadvantage*"<sup>3</sup> there is no evidence in the mean scores for the oral viva when compared to the previous year's paper based assessment.

It may be that the oral viva presents a problem in relation to time to re-think ideas and go back over material to make corrections. Certainly throughout the assessment none of the students asked to go back over a question and verbally change a comment or point made: "*I kept forgetting what I wanted to say and was conscious of the fact that I couldn't go back on myself*"<sup>4</sup>. Perhaps the point should have been made so that students knew they had the option to go back over questions irrespective of the format of the exam so that emerging thoughts and reflection could be used: "*when you are in an exam you have more time to think about things*"<sup>1</sup>. (Table .1)

## Employability

Here feelings reflect how people view what they will be doing post graduation. There was clearly a feeling that students would tend to take on roles that involved oral communication and also that answering questions ad hoc would be essential: "*It's one thing being able to write things down but to be able to think straight off the top of your head...*"<sup>8</sup> "*To go straight from studying without doing this kind of thing would be inconceivable*"<sup>8</sup> "*You are not going to meet an employer and say (to them) here's an essay*"<sup>4</sup>.

## IMPLICATIONS FOR FURTHER RESEARCH

This brief piece of, unfunded, research is a good starting point for further investigation. It is to be hoped that work looking at the anxiety and reality/relevancy issues highlighted here will yield further data. There is potential for better understanding of the specific elements of an assessment e.g. the anxiety aspect or realism/relevancy. Exploration might help educators understand factors that

increase or decrease relative level of anxiety/relevancy/reality. The issue of a greater number of 1<sup>st</sup> class marks needs further investigation - does this indicate that the assessment is easier? Or that student performs better in an oral exam compared to the written alternative?

In particular, comparative analyses of written work and oral viva by dyslexic students may help educators better understand whether there is a benefit of including oral examination as an important element of assessment in nutritional education and many other areas.

A trial investigating a larger cohort of students, interviewed over a longer period and following the identification of preferred learning styles would be interesting. This could include an analysis of learning styles and perceptions of the oral viva. Would it be beneficial to offer students a choice of oral viva or written exam in future?

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