USING VIDEO TO PREPARE STUDENTS FOR COMPONENTS OF PHONETICS ORALS

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ABSTRACT
The viva voce exam is an assessment in many phonetics courses, as it allows production skills to be tested, and perception and understanding to be demonstrated under pressure. The viva, and particularly the oral aspect, can make students feel unsure and anxious. We compared three methods of increasing knowledge and decreasing anxiety - written information, a practice session and a video of a mock viva - by asking students to rate their knowledge and anxiety after each. None of the sources of information had any effect on anxiety. In general the video increased knowledge over and above the practice session, except for the intonation session where both exercises were necessary for students to know what was required.

Keywords: viva, oral exam, symbolic modeling.

1. INTRODUCTION
A key skill for any phonetician is to produce a full range of speech sounds. This is an important activity in its own right, but also allows students to demonstrate an enhanced understanding of theory [1]. Production skills, along with description and transcription skills, are traditionally tested in a viva voce examination. Our focus here is on the vivas taken by speech and language therapy students as part of their training. The ‘oral’ part of the viva is an individual exam typically lasting 15 minutes, with one or two examiners. In a typical oral, students produce non-native sounds from International Phonetic Alphabet (IPA) symbols, recognise and label sounds produced by the examiner in a substitutions exercise, and describe the intonation of a sentence produced by themselves, and then by the examiner.

Although in some ways a specialist assessment, the phonetics oral is similar in many ways to orals in other disciplines. Orals in foreign language studies and PhD vivas also require students to think on their feet, and to respond to material without consulting notes or preparing for particular questions, and responses must be given orally.

Whilst they give a unique insight into students’ abilities, oral exams tend to give rise to a great deal of anxiety and uncertainty for students across disciplines. Arndt et al [2, 277], found ‘a disproportionately high degree of anxiety in candidates, the level being substantially higher than a typical selection interview’. Similarly, [3] and [4] found that many students noted pre-viva anxiety concerns. Clearly this is an issue, as, if anxiety levels are too high, learning will not be facilitated (e.g. [5]). Furthermore, most students are visibly nervous during the viva itself, as would be expected, but very occasionally individual students express too much anxiety to take part.

As well as problems with anxiety, students in our cohorts have regularly suggested via module feedback that they need to know more about the oral, indicating problems with their knowledge of the format. The issue of knowledge seems to relate to how prepared students feel. [3] note, for example, that for marketing vivas, ‘Students thought greater understanding of the viva process and more practice in class would help reduce anxiety prior to the viva’. In addition, [6] note that anxiety levels for PhD vivas can be reduced by preparing students through careful guidelines and mock-vivas, whilst [4] notes that a role-play was useful in helping students overcome their fear.

Previous strategies we have used for increasing knowledge and decreasing anxiety about the oral are giving out written information earlier, and providing additional practice sessions. Typically, written information about the format of the oral is available seven months in advance, a two-hour practice session occurs four months in advance, and there are two two-hour practice sessions in the weeks prior to the oral. However, students still express a great deal of uncertainty about the oral’s format, and anxiety about their performance.

Thus, our aim in this study was to find ways of addressing students’ knowledge and anxiety about
their oral exam. We can conceptualise additional ways of addressing students’ knowledge and anxiety in terms of classic work by Bandura (e.g. [7]), which identified four sources of self-efficacy. These are ‘performance accomplishments’ (such as mock orals), ‘verbal persuasion’ (being told about the oral and how to act), ‘emotional arousal’ (desensitisation and relaxation techniques), and ‘vicarious experiences’ (watching others engage in an oral). Here we investigate the utility of a vicarious experience by showing students a video of a mock-oral, which acts as a symbolic model of behavior. Video has been used as a vehicle for modelling in a number of fields within and outside education (see [8] and a review by [9]).

Our research questions are 1) Can a symbolic model change students’ ratings of knowledge and anxiety about components of their oral exam? And 2) How does the symbolic model compare to the previously used written information and practice session for individual oral components?

2. METHOD

We filmed a video of a mock–oral exam, featuring an experienced oral examiner, and a student who had passed her oral the previous year. As people are considered more likely to attend to a model who is similar to them (e.g. [10]) we chose a student of the same gender as those in the cohort, and of similar age and ethnicity to the majority. As we expect her behaviour to be imitated, we chose a student who could be relatively in control, not especially anxious, humorous and relaxed. The examiner and candidate were each reminded about the components of the oral, but to make the video as valid as possible, the candidate did not see the oral material prior to the video being filmed.

We filmed the entire process of the oral from the student waiting beforehand, to leaving after the exam, and also showed a clip of the oral material card with symbols for production and a sentence for use in the intonation component. We filmed continuously to make the video representative of a real oral. However, we edited to remove extraneous material, and inserted place-holder screens highlighting which component was next. The final video clip was 14 minutes in duration.

Participants were 41 students in their 2nd year of a BSc (Hons) in Speech and Language Therapy at a metropolitan university in the UK. All students received written information about the viva at the same time, and then watched the video and engaged in a practice session, but in different orders, as explained below.

The written information was that always provided to students, and included details of the components of the oral, what the candidate would be required to do, and how it would be marked. Before watching the video, students were asked to imagine themselves in the position of the candidate, to try to work out the answers they would give in her place, and to consider if her responses were correct.

In the practice session the lecturer presented an exercise from each section of the oral for the class to work on as a group, and then fed back on correct responses and clarified any difficulties. In terms of Bandura’s sources of self-efficacy, the written information and practice session are most akin to verbal persuasion as students are told what to expect and how to act. In the practice session there is some element of performance accomplishment, but only in terms of practicing material rather than being in a viva situation. The video represents a vicarious experience via a symbolic model.

We assessed student knowledge and anxiety by gathering self-ratings at three time points. The first was a baseline when students had received written information two months previously, and was the same for all students. For the next two testing times the cohort was divided randomly in half. Group 1 (n=20) attended the usual practice session immediately followed by watching the video. Group 2 (n=21) watched the video first, immediately followed by the practice session. Both groups gave ratings at the end of each activity.

Students responded to two questions about each component of the oral at all testing times. Question 1 was ‘I know what I will have to do in the production/substitution/intonation section’ and question 2 was ‘I am anxious about the production/substitution/intonation section’. Ratings were on a 5 point Likert scale where 1 = strongly disagree, 2 = disagree, 3 = neither agree nor disagree, 4 = agree and 5 = strongly agree. Thus our scales are the inverse of one another. A positive result on the knowledge scale is a high rating, whilst a positive result on the anxiety scale is a low rating. Students also had space to give free-text comments. Students used a pseudonym so that their ratings could be directly compared across testing times.
3. RESULTS

Table 1: Mean (sd) ratings.

<table>
<thead>
<tr>
<th></th>
<th>Time 1</th>
<th>Time 2</th>
<th>Time 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Written Knowledge</td>
<td>1.9 (1.1)</td>
<td>2.3 (1.2)</td>
<td>3.2 (0.8)</td>
</tr>
<tr>
<td>Production</td>
<td>2.4 (0.9)</td>
<td>2.5 (1.1)</td>
<td>3.1 (1.1)</td>
</tr>
<tr>
<td>Intonation</td>
<td>2.0 (1.1)</td>
<td>2.3 (0.9)</td>
<td>3.9 (0.6)</td>
</tr>
</tbody>
</table>

For each component of the oral (production, substitutions, intonation) the difference in ratings across all testing times was analysed using Friedman’s test, which, when significant, was followed by posthoc Wilcoxon tests between all pairs of testing times. There was no significant effect of either the practice session or the video on ratings of anxiety, which remained high across testing times for all components, never dropping below 3.9 out of 5 for either group.

Table 2: Results of Friedman’s test for anxiety ratings.

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>χ²(2)=2.2, p=.34</td>
<td>χ²(2)=2.2, p=.33</td>
</tr>
<tr>
<td>Substitutions</td>
<td>χ²(2)=4.2, p=.12</td>
<td>χ²(2)=0.1, p=.98</td>
</tr>
<tr>
<td>Intonation</td>
<td>χ²(2)=6.9, p=.71</td>
<td>χ²(2)=1.9, p=.39</td>
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</table>

Table 3: Results of Friedman’s test for knowledge ratings.

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>χ²(2)=27.6, p=.00</td>
<td>χ²(2)=20.4, p=.00</td>
</tr>
<tr>
<td>Substitutions</td>
<td>χ²(2)=24.6, p=.00</td>
<td>χ²(2)=29.2, p=.00</td>
</tr>
<tr>
<td>Intonation</td>
<td>χ²(2)=32.7, p=.00</td>
<td>χ²(2)=28.8, p=.00</td>
</tr>
</tbody>
</table>

For the production and substitution components, knowledge increased across testing times but in different ways for each group. Knowledge ratings for group 1 increased from the baseline to the practice session, and still further after watching the video. For group 2 knowledge rose from the baseline to watching the video, but, although the mean rating then increased again after engaging in the practice session, this was not significantly different to that obtained after the video. Thus, for these sections, the video added to students’ knowledge whenever it was shown, but the practice session did not significantly affect knowledge when it occurred after the video.

For intonation the situation was different; knowledge increased at each time point regardless of the order of practice session and video.

4. DISCUSSION

We compared the effects of different types of information on student knowledge and anxiety about the phonetics oral exam. Neither written information, nor a practice session, or a video of a mock-oral exam affected anxiety, which was high at all times and for all oral components. For knowledge, the practice sessions and video were more effective than the written information, but the details of the results relate to the components of the viva. Knowledge of substitutions and production was addressed by the video alone, whilst knowledge about the intonation component was addressed by both the practice and video.

There are several issues arising from this study, beginning with why anxiety was not affected by any of the information provided. This initially seems like an unusual finding as fear has been successfully treated with symbolic modelling (e.g. [11]). One reason for this lack of anxiety reduction in the current study might relate to the rating scale used, which did not measure how anxious students were, but instead asked them to agree or disagree with the statement ‘I am anxious about the [component] part of the oral’. It is perhaps too much to ask that any educational intervention will reduce anxiety so much that students will move into the range of disagreeing with, or even being neutral about, this statement. In future we will investigate alternative ways of measuring anxiety, such as the State-Trait Anxiety Inventory for Adults ([12]) to see if a measure of the degree of anxiety might reveal a reduction across testing times and after specific interventions.

A surprising aspect of the anxiety ratings is that students were equally anxious about all the components of the oral. Whilst students express anxiety about production and intonation in class, they rarely mention the substitutions component as
especially anxiety provoking. In addition the anxiety does not seem to relate to the elements that are most practiced or assessed. Students in this cohort had been practicing substitutions for a year and a term, and had been formally assessed on them. Intonation was also a component of previous assessments, albeit in less detail than in the oral. Only production was a complete unknown, yet the oral nature of all three components appears to make them equally stressed, meaning additional strategies need to be found to manage this anxiety.

For all components, both the practice session and video helped students feel their knowledge was improved. This is perhaps surprising as we might have thought this information to be clear from the written details, which included notes about each section, what would be covered, and how marks would be allocated. However, an additional question at the first time point revealed that only six students in group 1, and four in group 2 had read this information. Thus, one effect of both the video and the practice session was to confront students with information in a way that could not go unnoticed.

For production and substitutions, knowledge was affected by the order of video and practice session. Knowledge ratings increased still further for those who saw the video after the practice session, but not for those who attended the practice session after the video. [3] noted that students would have appreciated improved briefing, practice and preparation for vivas. The results of this study indicate that briefing for these two components is more effective when a symbolic model is employed than when either written information or a practice session is provided.

Nevertheless, the question remains why the video was more effective than the practice session. It seems likely that students feel a lack of knowledge because they cannot imagine what the viva will be like. They might worry about things that cannot be shown in writing or in the practice session, such as how friendly the examiner will be and how much assistance they will get. In short, the video situates learning in a realistic context, as per constructivist principles (see e.g. [13]).

However, the same result was not found for intonation, which required both the practice session and video in order for students to feel that they knew what would be required of them. A possible explanation for this is that they had had little practice giving a full analysis of intonation, having concentrated so far on the position of the nucleus and identifying the nuclear tone.

Another explanation might be that there are a number of optional elements to an intonation phrase, such as the pre-head, head and tail, which might make students feel less sure about what they need to do. This is less true for the other aspects of the oral: Production is a fairly easy concept to grasp, and substitutions largely require an answer in terms of VPM labels. The practice session was able to demonstrate and manipulate the optional aspects in a way that was not possible for the video. Thus, it is possible that the intonation exercise required all forms of information because it is less practiced, and because it is conceptually more complex than the other sections.

5. REFERENCES