

What is the extent and impact of pitch-matching difficulties of first-year male MT students on a degree course.

Proposal

The context of the proposed research-project is a performing-arts college at which the researcher has been a singing teacher since 2016. The historic situation is that the college catered for BTech students, but the decision was made to offer a Music Theatre degree course in 2019. Funding changes to BTech courses (Lewis, 2021) resulted in most students now being enrolled on the degree course, the vocal provision for which is: 30-minute private singing lesson per fortnight, two group lecture/masterclass, weekly. Some colleges offer sixty minutes of singing a week, plus additional coaching (Laines, Arts Ed, RAM). The experience level expected at audition also varies between two A level passes and a professional diploma in MT, or 'five years' continuous employment in the professional performing arts' (Trinity Laban, Laines).

The researcher's justification for this project is that they have found that most male singers find it difficult to pitch-matching to a piano or female voice. This differs from the level of competency of female singers witnessed by the researcher who, therefore, seeks to investigate the extent and ramifications of this issue.

The intended impact of this study is:

- to confirm the existence of pitch-matching difficulties
- to discover the extent to which other practitioners have seen the same problem
- to discuss with them their strategies for coping with it.

Furthermore, the researcher intends to investigate a possible correlation between lack of vocal experience and pitch-matching difficulties.

Wider ramifications would be the development of a pedagogical framework to assist in the training of male singers at college level.

The outlined intention of the study is for the researcher to gain insight into pitch matching issues following the principles of Driscoll (1994); 'What, so what, now what?'.

- What is happening in the mind of the student, psychologically.

- How does inaccurate tuning affect their confidence and progress
- What methods can be used to help the student

The researcher intends to question the students and analyse their responses.

Methods.

A reflective diary will be used to record instances of pitch-matching problems, insights of the researcher, and the anonymous comments of the students. Each participant will be asked a series of questions and will be given a brief pitch-matching test. The questions and tests will be the same for each student and the observations will take place over two half-hour lessons per participant. This method aligns with the researcher's pragmatist ontology and belief in the efficacy of Schön's reflective cycle, (1991). The justification for using reflective diaries is to develop 'self-regulated learning' (DiBenedetto, 2011; Zimmerman, 2000) and the researcher aims to improve their personal learning outcome by using this method.

In addition, an online focus-group of experienced voice practitioners will be used to gain teacher perspective. The researcher's justification for choosing a focus group was that this method has proved effective in gaining insight into teaching strategies (Winslow et al., 2012).

Work Based Learning Project: Module 3

Description : Investigation into pitch-matching skills in male college students

Owner : Yvette Cummings

Start Date : 19.9.22

End Date : 18/01/23

Length : 17 weeks approximately

	Task	Assignment	Start Date	Finish Date	Work days	Weeks / Phases																									
						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1	Start reflective diary		19/09/22	10/11/22																											
1.1	Code data from diary		10/11/22	20/11/22																											
1.2	Add data from focus group		20/11/22																												
2																															
2.1	Devise prompts for focus group from blog		01/10/22	01/10/22																											
2.2	Select potential focus group participants		03/10/22	07/10/22																											
2.3	Email invitations to participate & gather responses.		07/10/22	17/10/22																											
2.4	Hold online focus group		06/11/22	06/11/22																											
2.5	Transcribe and code data from meeting		06/11/22	16/11/22																											
3	Write introduction		01/10/22	20/10/22																											
3.1	Write literature review		01/10/22	01/11/22																											
3.2	Write methods section		01/11/22	10/11/22																											
4																															
4.1	Write findings and conclusions		01/12/22	12/12/22																											
4.2	Produce graphics for online presentation		12/12/22	01/01/23																											
4.3	Script and rehearse presentation		01/01/23	01/01/22																											
4.4	Deliver presentation		18/01/23	18/01/23																											

The ethical considerations are that the researcher is also the participants' singing teacher. Students should not feel enjoined to participate in the study by the innate power balance (Madikizela-Madiya, 2017). They should be informed that the study is voluntary, and their consent can be rescinded at any point (Owens, 2010).

Painful memories that might be triggered during the lesson can be talked through with the designated safeguarding lead, and referrals made to medical or external counselling services (KCSIE, 2020). Care will be taken to maintain the anonymity of students and their learning process should not be negatively impacted by time given over to the research project. The normal running of the college should not be interrupted, and the use of its facilities should fall within the normal parameters of a working week.

The researcher expects their learning outcomes to be manifold due to the strategy of 'Self-Regulated Learning' (Zimmerman, 2002). It is a unique situation to be student and teacher simultaneously, and the researcher welcomes the opportunity to understand their pupils' perspective as this will enhance the delivery of insightful learning. 181+493

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Module 3 BMPF7008 Work-Based Learning Project +674

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Introduction

The purpose of this worked-based action-research project was study of male first-year students on an MT degree-course and how poor pitch-matching might affect them. Based on previous years, the researcher assumed the current cohort would:

- Lack vocal experience
- Lack confidence
- Find pitch-matching difficult

A Music Theatre degree-course was offered in 2019 and proved popular. Auditionees have mostly had some vocational training, but the majority are dance specialists.

The minimum vocal requirement for professional dancers in MT was to be able to sing 16 bars of a song (Dombroski, 2021, Hilton, 2020). According to Diamond (2021) the industry gold standard is now the 'Triple threat' performer, with equal proficiency across three disciplines.

The college timetable is extensive, leaving minimal time for vocal training. Bodkin-Allen and Swain (2019) found that poor pitch-matching can profoundly affect singer confidence. Anxiety could then adversely affect progress resulting in a cycle of negativity and developmental impasse. Pubertal voice-change might also affect male students, Cooksey, (1985) stated that even at 'settling baritone' - stage V, one cannot expect a fully developed adult range or tone. He explained that pubertal voice change usually takes 13 months with voices not typically 'settling' fully until later. Seven out of ten of the student participants reported voice change at fifteen or later, however

Commented [SS1]: Including a ToC before the introduction will help guide your reader. Your Project Proposal should come in advance of the Project Report – take a look at the module exemplars and the handbook for further guidance.

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Demorest and Pfordresher (2015), found that college age students' singing accuracy was like kindergarteners, having significantly declined through lack of practise.

This research aims to provide a realistic picture of this cohort to assist practitioners in an appreciation of circumstances, which might stall student progress. At the conclusion of the project, guidelines for college vocal faculties will be suggested, based on findings.

A reflective diary was used to record student experiences and practitioner insights. Ten student-participants were given two, thirty-minute lessons which constituted the study period. Incorporated into each lesson was a pitch-matching test and a semi-structured interview. Interview questions and pitch-test were standardised across lessons to aid comparison.

An online focus group of expert vocal pedagogues compared practitioner experiences and strategies for helping adolescent male singers. This was transcribed and coded by the researcher and combined with coded data from the reflective diary.

Review of Literature

Singing predates the advent of Homo sapiens (Mithen, 2006, Barham and Everett, 2021) and an essay by Brown (2000), hypothesised that Neanderthals communicated in a protolanguage that he christened 'musilanguage'. Comparisons might be made to 'motherese' (Parlato-Oliveira et al., 2021) or 'parentese / Caretakerese' (Kuhl, 2002); singsong utterances made between caregivers and infants. Singing and human evolution are connected; to sing is important for social-bonding and personal well-being. It reveals how we are perceived (Huang and Zhang, 2019) and how we feel (Filippi, 2020).

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Commented [SS4]: Parentese is also a term – do you mean mothers specifically?

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Song as communication

Recent neurological discoveries (Norman-Haignere et al. 2022, Whitehead, 2018) identify brain regions that are exclusively used to process song. According to Pearce,

Launay and Dunbar (2015) a distinct region evolved to facilitate communication amongst large groups of hunter-gatherers. Acoustically the sound of vowels can travel over larger distances than consonants (Fogerty and Humes, 2012). The elongated, pitched vowels of song would carry information effectively, like a bugler communicates orders in battle. Tonal languages rely on pitch to differentiate words (Li et al. 2021, Wong, et. al. 2009, Samarin, 1952). We evolved with the ability to discriminate pitch as a vital component of communication.

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The role of voice in perception

Voice characteristics communicate the health, age, social background, education, emotional state, and perceived attractiveness of the speaker (Babel, Maguire and King, 2014, Hill and Puts, 2017, Bruckert et al. 2010). Attractive voices also provide neural reward value for the listener (Bestelmeyer et al., 2012). We are evaluated partially, by our voices. Moreover, Austin and Visopel, (1998) linked voice to self-image so criticisms of speech and singing can be felt on a profound level. Shouldice (2014) found that peer criticism strongly influenced singer self-concept, resulting in reduced participation and achievement. Welch (2015) states negative comments about a child's singing, can limit their musical achievement. A musically nurturing environment, or otherwise can also be critical (Welch, 2017). Confidence, self-concept and achievement are impacted by bad singing experiences (Freer, 2015, Ashley, 2008).

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The negative impacts of poor intonation

Poor intonation (out-of-tune singing) has attracted a greater number of studies than unpleasant timbre, (vocal-tone) (McCoy, 1997, Bradshaw and McHenry, 2005, Demorest, Nichols and Pfordresher, 2017, Nichols and Wang, 2016, Pfordresher and Brown, 2007). Accurate tuning is either more important than vocal-tone or of greater interest to academics.

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Social-inclusion, and sense of self-worth are strongly linked to group singing activities (Welch et al., 2014) but if a singer feels themselves inept, will avoid this beneficial pursuit (Sloboda, Wise, and Peretz, 2005). Welch (2009) informs us that in many cultures, singing skill is associated with musical ability and a deficiency of aptitude in the former can result in permanent labelling as a “non-singer”. Teachers may be biased against students with developing pitch-accuracy. Knight and Baldauf, (1941) showed that children who are uncertain singers, demand more teacher assistance to correct their tuning. The rest of the class receive less attention and the group effort is spoilt if the minority’s tuning is not corrected. Peer resentment and teacher frustration may therefore arise. Children’s academic attainment is often varied across a class, but group-singing immediately demonstrates a contrast between skill levels. Demorest et al., (2017) found that singing ability was linked to confidence and attainment in other spheres of learning.

Gender inequalities

Several studies have highlighted a gender divide in the perception of singing skill (Cooper, 1995, Malone DeAmbrose, 2019). Demorest and Clements (2007) found that boys lost confidence, due to pitch-uncertainty and vocal unreliability around voice-change. Welch, Sergeant and White (1996, 1997, 2011) found that although pitch-matching skills between genders was equal between the ages of three and seven, boys’ song singing skills declined; the gender disparity was not explained. Knight and Baldauf (1941) reported that in their study, thirteen boys and seven girls had difficulty pitch-matching. Green (1997) found that most boys felt shy whilst singing and that both staff and boys at the school thought that singing was a feminine activity.

Differentiation of amusia and pitch-uncertainty

People with congenital amusia cannot decode pitch in song (Julie Ayotte, Isabelle Peretz, Krista Hyde 2002). The distinct region of the brain that is responsible for this action also analyses rhythm (Dana L Boebinger, Sam V Norman-Haignere, 2021, Jessica M. Foxton, Rachel K. Nandy, 2006) and the ability to decode rhythm is deficient

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in a proportion of amusiacs. Phillips-Silver et al. (2011) discovered a variant of amusia that they christened 'beat-deaf'. Graves and Pralus, (2019) found that amusiacs could differentiate loudness but not pitch or tonal colour. It would be unlikely therefore, for an amusic to be enrolled on an MT degree course.

Perception of inadequacy

The intonationally challenged are considered inept and comedic (Flanders and Swann, 1951) as was Florence Foster Jenkins (Blumberg, 2022). Peretz (2006) argues that we assume intonation is an innate skill and our extensive exposure to music has made us connoisseurs. "Drones," "non singers" and "monotones" were pejorative terms for the intonationally uncertain and remedial help was recommended to normalise them (Joyner, 1969, Richards and Durrant, 2003, Knight and Baldauf, 1941, Roberts and Davies, 1975, Grossman-Phillips, 1929). Students' self-perception and confidence is impacted by judgments about tuning.

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Pitch-matching deficiencies explored

Nichols (2020) found that pitch-matching accuracy was improved by using a voice as a sound source as did Leveque et al., (2011) and Green, (1990). Karpinski, (2000) recommended matching the voice modeller and students by gender. Small and McCachern, (1983) however, found first grade children had no difference in accuracy with male or female voice modellers. Yarbrough, et al. (1995) improved scores when using a male falsetto voice model and Granot, et al (2013) found a live voice modeller increased participant accuracy. It was hypothesised that the vocal gesture and the role of the HMNS (human mirror neurone system) (Leveque et al. 2011) may therefore be significant. This correlates to the findings that amusiacs have difficulty decoding facial expressions (Cheung, Zhang, and Zhang, 2020)

Beavers and Olson (2021) highlight the problem of finding the origins of pitch-inaccuracies. They could be neurological, auditory or physical. Aural-skills trainers are

Commented [SS11]: How does this impact the work of a singing teacher? What can they and can they not assess/support?

sometimes instrumentalists who lack the specialised vocal training to diagnose a tuning problem. A singing teacher can only investigate causes and based on their hypotheses, direct students to seek help amongst medical specialists if the problem is beyond the scope of their training.

Training future professionals

Leborgne and Rosenberg, (2021) stated that the use of autotune technology has become standard practice in the entertainment industry. Perfect intonation is expected of professional singers and public awareness of tuning aids has made them zealous in their criticism. Accurate tuning was equated with perceived talent in a survey of vocal pedagogues (Watts et al. 2003). Vocal exercises are used to develop technique and expand range. If their initial note cannot be matched, then the lesson stalls and progress is interrupted.

Many studies centre around school children (Leighton and Lamont 2006, Rutkowski, 2015, Moran, 2006) rather than college students. A comprehensive study of music majors by Walker (2010), highlighted that college-age males found tuning challenging, but the study did not include students' views.

In contrast, this study seeks to explore student perspective of poor-pitching, exploring the background, experiences, and confidence of the participants.

Methods

The researcher has noticed that some male students struggle to pitch-match a piano or female voice. Karpinski, (2000) recognised that difficulties can arise when different genders try to pitch from one another, and Watts and Hall, (2008) found that the tone of the source note is important. The difference in timbre of a piano to a human voice, might be confusing for inexperienced singers (Nichols, 2020, Oberfield, 2005).

Male students tend to sing an octave lower than the sample note voiced by a female teacher, if they can pitch from it at all. When the female singer sings at a pitch where the sample note is higher in her range, intending the male student to sing in his own octave, there is often confusion (Rowbury, 2016). Some singers slip into falsetto and

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Commented [SS13]: What did it discover? What have you extrapolated from this of relevance to your study?

exactly replicate the pitch of the sung sample. This phenomenon has been prevalent amongst the male student cohort. Failure to accurately sing what is often the first note in a lesson fosters anxiety, and confidence must be regained before the lesson can continue.

A keen desire to alleviate student stress and facilitate confident, accurate singing has led the researcher to an action-research project aligning with her pragmatic ontology. The researcher's habitual pattern follows the Deweyan reflective cycle (1933). The Deweyan model of reflection has often been used in educational research (Stark, 2020, Cunningham, 2017, Meager, 2018). Dewey was an educational reformer whose constructivist approach emphasized student-centred learning over a curriculum-based model (Últanir, 2012). The Deweyan philosophy has been the impetus for this action-research project.

From an ontological standpoint, just as a singer may be labelled either in or out of tune, the truth may seem finite (Costley, Elliott, and Gibbs, 2010). The researcher also accepts, that students construct their own truth through experiences (Gray, 2009). Their background, practical experience, encountered prejudices, and anxieties are unique to each. Epistemologically, truths are discovered through observing and questioning the students to understand their truth, and comparisons then drawn from findings in similar research projects. Causes for tuning difficulties may be due to a hearing deficit, neurological decoding (Leveque, 2011), acoustic properties of a note (White and Auerbach) or with physically reproducing the note (Leborgne and Rosenberg, 2021).

The methodology chosen by the researcher is a Triangulation Design-multilevel model (Tashakkori and Treddlie, 1998). Creswell (2006) recommended this mixed-methods approach for research projects that used quantitative and qualitative methods to produce a complete picture of a situation. The researcher aims to make the psychological impact of uncertain intonation on college students her focus utilising the pragmatist paradigm as a framework. The pedagogue's vocational desire to help students, make a qualitative research design the logical choice.

A focus-group was chosen as a method to gauge the extent of pitch matching issues by discussion. The stimulation of pupil creativity was a topic researched by Wai Man Lam (2004) using the same method. The informal style of the group encouraged

Commented [SS14]: Except that you've noted above it's a mixed methods study.

participation and creative characteristics and personalities of the teacher participants was revealed.

A reflective diary would be used to note practitioner observations and student comments. Harrison and Dwyer (2017) that found that reflective diaries encouraged contemplation of the student / teacher interaction and fostered a deeper understanding of alternate perspectives. They proved an ideal vehicle for practitioner self-evaluation. This method encouraged dialogue with the students, to investigate their reality.

A brief pitch-matching test would be administered to participants followed by a semi structured interview to gauge experience level. Further questions would be generated based on responses to the first round of testing and these would be put to the participants in the second session.

Focus-group questions were generated from a blog that specifically dealt with tuning problems (Rowbury, 2016) and a recording would be made of the meeting. This would then be transcribed, and coded.

A third-year student was a late participant to the study and received a series of four lessons during which he was interviewed and assessed for pitch accuracy. This student self-identified as needing assistance with tuning and was included as a comparison to the other students.

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The researcher was mindful of the practitioner/student power dynamic (Banegas and Villacañas-de-Castro, 2015) and was scrupulous in outlining the research to all participants, explaining and emphasising informed consent.

Two members of the focus group are college staff and are therefore known to each other. Comments, although anonymised in the study, may reflect upon them in the context of their work. Related topics to the current research have been discussed informally between singing staff at the college with no repercussions (Flemming, 2018).

Commented [SS16]: Can you provide further research citations for your ethical approach?

One of the student participants self-identified as being neuro-diverse stating that he had had distressingly heightened emotional reactions to situations in the past. He had not yet been professionally diagnosed and had not informed the college. During

Commented [SS17]: Were you given any information as to how their self-identified neurodiversity manifested or impacted them?

questioning it became apparent to the researcher that he was also a recovering puberphone. Puberphonia is a condition whereby pubertal voice-change is resisted and the individual maintains a childlike voice (Chandra, et al. 2011). The participant freely volunteered that he suspected he was autistic and was keen to continue in the study.

Commented [SS18]: Define – don't assume reader knowledge.

Another student participant had had a harrowing audition elsewhere, prior to commencing his training at the college. He freely chose to speak about the event and the researcher was informed that the participant is receiving support from the college councillor. He has not reported any psychological trauma from participating in the study or from talking to the researcher. The researcher was faced with a dilemma; how to maintain participant confidentiality and simultaneously follow the college safeguarding protocol (Burke Drauker et al., 2009). College recommendations are that information vital to student wellbeing, should be shared with relevant staff. The researcher asked the student participants for their permission to share data with the student welfare department and they agreed.

Commented [SS19]: Can you cite references for ethics? Can you also touch on being an insider-researcher?

Report

Reflective Diary findings

A cohort of nine first year MT degree students, was recruited to take part in a study on pitch-matching issues, and related factors. All the participants were cis gendered males, and all had experienced voice change during puberty. A third-year student was added to the group for comparison, regarding age and vocal experience.

The researcher kept a reflective diary and collected participants' comments during and after their lessons (Lindroth, 2014). Lessons were of 30 minutes duration and data was gathered and combined over two lessons per student. Practitioner analysis of student progress, and teaching strategies were noted. The researcher decided not to make video or audio recordings of the lessons. She was mindful of the possible inexperience and emotional vulnerability of the participants and did not wish to amplify their stress levels. Rutakumwa et al. (2020) argues that written and recorded interviews have proved equally accurate. Some data might have been lost, but the student / teacher

Commented [SS20]: Is this your reflective diary or your findings? Or reflective diary findings?

relationship was not jeopardized, and the participants were not negatively impacted by the study.

The first sessions commenced with a brief pitch-matching task whereby the researcher played a series of notes on the piano and asked the participants to sing the note back as accurately as possible. The notes were C3, E3, and G3 and the researcher then sang A4 and C5, asking the participants to match her [pitch] (see appendix) A semi-structured interview followed, (Dejonckheere and Vaughn, 2019) during which the participants answered questions regarding experience, voice-change, and feelings about singing. The lesson then proceeded as normal, and a new song introduced and worked on. All first years were asked to learn an Irving Berlin song; some of the participants had chosen a song and some were given a song by the researcher.

At the beginning of the second session, further questions were posed, and the pitch-matching task was repeated (Benureau, 2018), this time embedded in the vocal warm up. The participants did not know that pitch-matching skills were to be evaluated a second time, merely that this was a the vocal warm up. Exercises followed immediately after the pitch-matching assessment.

Experience levels of Student Participants (SP10-1)

SP10 Had had eight weeks of group-lessons lasting 45 minutes. The groups consisted of fifteen participants; male and female singers (SG10 referred to "boys" and "girls"). He reported that "I had to sing a lot of girls' songs ... it wasn't enjoyable. It was something we had to do to keep the teachers happy." SG10 received no individual guidance prior to auditioning. He is a third-year student but has asked for help due to difficulties in tuning. As a result of lockdown and an inadequate staffing ratio, he has not had many private lessons.

SP9 Has played several leading roles: "When I sang Gavroche my voice was breaking ...I tried to use the cockney accent to help, and it did a bit." He talks fondly about group-lessons, saying that his teachers' support was responsible in large part for his confidence level now: "My teacher said, 'sing it out' you know sing your top notes and

Commented [SS21]: Are you including any appendices with your exercises written in full?

that really helped with my **range**.” The researcher asked whether the participant referred to the use of falsetto and he agreed.

Commented [SS22]: Does it help the top range to ‘sing out’? I wonder what was meant by this. Can you analyse your data?

SP8 Had group-lessons, prior to lockdown, then had 6-8 private lessons online prior to audition. SP8 reported elevated levels of anxiety connected to singing: “I usually cry in lessons” yet has had a moderate level of tuition. He reports that the one-to-one lessons were online, and the researcher questions whether the delivery system of these lessons could have been a contributory factor to his anxiety levels (Catling et al., 2022). The participant said “I enjoyed it” when referring to the group sessions but thought that this was due to not being able to hear himself. The researcher ponders whether the group dynamic had subconscious positive effects on the **participant** (Campbell, Bodkin-Allen, and Swain, 2021; Keeler et al. 2015).

Commented [SS23]: More of this analysis would be beneficial.

SP7 Went to the same establishment as SG9. He sang extensively as a treble but when it became more difficult to navigate voice-change stopped singing: “I used to sing with the girls but then my voice changed, and I knew I had to sing with the lads but .. I couldn’t find... how. I just stopped singing for a year.”

He has had one group-lesson a week over two years and describes singing “Proud of your boy” in different keys every week.

SP6 sang the role of “Billy Flynn” in Chicago, at his former college. He has never had a one-to-one lesson and describes himself confidently as an actor/singer.

SP5 went to a commercial dance college where he said: “We sang church songs and went up and down the scales”. SP5 has not had any one-to-one lessons and yet is confident with his singing although he reports frequent vocal fatigue and lack of projection. His speaking voice is light and breathy, lacking in the harmonics one would hear if there was maximal vocal fold closure (Kochis-Jennings, 2014). His descriptions

of voice-change: “my voice stayed high and it was only when I was doing drama and being different characters that my other voice came out”; and his self-identification as autistic, incline the researcher to suspect that he is a recovering puberphone (Kumaresan and Bharath, 2020). Williams (2019) linked autism with puberphonia as did Sharp and Tasko, (2011). SP5 is an emergent bass baritone and has been using constriction to manipulate his larynx. His **assumption**: “you have to have a high voice to work in music theatre,” and lack of professional guidance has made him anxious. There is a trend in contemporary Music Theatre for leading male roles to be written for tenor. It is the experience of the researcher that students focus on newer repertoire skewing their perspective of the art form.

Commented [SS24]: Any inclination as to what this is based on?

SP4 has had one session a week of group-singing lessons over two years which he has not enjoyed: “It was called singing for dancers” (he rolls his eyes). He went on to state, however, that technical theory was included in the sessions: “we learnt about twang” (Sundberg, 2010). When asked how he felt about the lessons he said: “It’s ok when we are all the same coz we’re all embarrassed, but when there’s a confident singer it’s like..(pulls a face) you know?” He reports varying degrees of pitching **accuracy**; “it just goes.”

Commented [SS25]: Think about how you use grammar to guide your reader’s comprehension of the writing.

SP3 has had “a few” one-to-one lessons online and prior to that, group-lessons in person once a week for two years. When asked about his feelings regarding singing, he blushes and fidgets: “I’m over it.” He has negative assumptions about singing particularly “boys” capability in this area: “Boys are rubbish, well, all the ones I’ve heard, they can’t really sing.” He is one of the students who requested extra help with his singing.

SP2 has had private lessons and ensemble classes for three years. He is still pitch-uncertain and does not consider himself to be a singer despite a comparably large amount of training. He measures his skills to that of his friends, most of whom he describes as “female” and “strong singers.” He has lofty standards and is an

accomplished dancer, so might unrealistically expect the same degree of expertise in other areas (Nordin-Bates et al. 2011). He has not considered the invalidity of comparison with female peers; they have not experienced voice-change in the same way and have had a longer interval since puberty (Leborgne and Rosenberg, 2021).

SP1 Has had no experience of singing lessons. He learnt one song from a recording to sing as his audition piece. He had a catastrophic audition at a different establishment, prior to being accepted at his current college: "I had a bad experience at one audition. The pianist couldn't play my song and stopped playing and they asked me for another song, but I didn't have one, so I had to sing Happy Birthday on my own, it was awful". He is and has had to be self-reliant. His musical tastes are eclectic, and he has five versions of an Irving Berlin song on his phone.

Participant Analysis

All participants have had group training prior to college except SP1. A group setting can be stressful for the inexperienced singer (Elorriaga, 2012; Monks, 2003). Teachers are aware of student vulnerability and might consider it potentially triggering for the student to be critiqued in public. For example, jaw tension could be a sign of a held in emotion (Owczarek, Lion and Radwan-Oczko, 2022). If this tension is released, so is the emotion. Although potentially cathartic an audience is not recommended during this process.

Four of the most anxious participants were also the most aspirational (SP3, SP10, SP1, and SP8) and asked for extra tutoring. The researcher wonders if ambition is linked to perfectionism, self-criticism, and anxiety (Star, 2020)

SP8 "The big note at the end, I want to be able to sing that" "I always cry in singing lessons...I suffer from anxiety".

SP3: "I can't wait to go and do it. I want to attack it," "it's nerve wracking"

SP1: "I am excited just to learn" "I'm willing to throw myself into it but I'm nervous"

SP10: "When I leave, I want to get a job on a cruise ship...but I won't make it through the singing round."

Analysis of pitch matching data

Participant	Voice change age	Current age	Experience	Pitching to piano	Pitching to voice
SP 1	15	18/19	none	Accurate in 1 st and 2 nd lessons	Sample A4 he sang A3 inaccurate Sample C5 he sang C4 accurate Sample A4 he sang A3 inaccurate Sample C5 he sang A4 inaccurate
SP2	15	18	3yrs 1-1s and groups	Accurate when concentrating (hesitation, fixed expression, visible effort)	Inaccurate
SP3	After GCSES	18	Groups 1-1s via zoom	Good initially but declined as complexity increased	Sample A4 he sang A3 inaccurate Sample C5 un-attempted (extremely flustered and confused) Sample A4 he sang A3 inaccurate Sample C5 un-attempted inaccuracy in song
SP 4	14/15	18	Groups 2 yrs 3 x 1-1s	Accurate in 1 st and 2 nd lessons	Sample A4 Accurate Sample C5 inaccurate Sample A4 Accurate Sample C5 inaccurate

Commented [SS26]: An interesting term. Inaccurate when not concentrating? How do you define concentration? How can you as a pedagogue support different focus needs in your students?

Commented [SS27]: Why?

SP 5	15/16	18	Group 2 yrs.	Accurate in 1 st and 2 nd lessons	Accurate in 1 st and 2 nd lessons
SP 6	unsure	21	Groups only	Accurate in 1 st and 2 nd lessons	Inaccurate in 1 st and 2 nd lessons
SP 7	15/16	18	Group 2 yrs 1-1s?	Accurate in 1 st and 2 nd lessons	Accurate in 1 st and 2 nd lessons
SP 8	17	20	Groups and 1-1s via zoom	1st lesson Accurate 2nd lesson (slightly sharp when anxious)	Sample A4 sang A3 Sample C5 inaccurate Sample A4 Accurate (slightly sharp when anxious) Sample C5 inaccurate
SP 9	11	18	extensive	accurate but says he is more confident pitching to a voice	Accurate 1 st and 2 nd lessons
SP 10	?	20	8 wks. groups	Accurate (he was surprised)	Sample A4 sang A3 Sample C5 sang C4 accurate

The focus group (FGA-E)

The focus-group of five participants had a variety of experience levels. Two had over thirty years' experience each, working with pre and post puberty students, and teaching through voice-change. Three ran boys' choirs, and two worked at the establishment where the research was conducted. The participants identified as male or female (cis gendered) and the group was, therefore, able to offer male and female practitioner perspectives. This was important to the study as one of the topics under investigation was pitch-matching comparisons between genders. Participants were AOTOS members, college colleagues of the researcher, and a fellow MA student.

Discussion

It was the **opinion** of the focus group, based on their collective experience, that a higher proportion of boys than girls have difficulty pitch-matching post puberty: “quite a large proportion of boys... do seem to struggle with pitching.”

Commented [SS28]: Why? Based on what?

The researcher was interested in whether the amount of time since puberty, to the date of the research study, would be a factor in pitch-matching accuracy. If the voice ‘settling’ fully or neurological changes in adolescence could be critical.

Teacher experience backed up by literature (Williams, 2008, Harries et al.1997) is that voice change mostly occurs between ages of 12 and 15 though most of the boys in the study report that their voice changes were at the upper end of this: “around the time of my GCSEs” with one who experienced voice-change at 11 and another at 17. The discrepancy might be that they were unaware of the initial stages of voice change and are only reporting the final stage 5 (Cooksey,1999). FGD said that his own voice change was very gradual: “my voice broke really slowly”. If most of the cohort experienced late voice change then this would mean that they are developmentally less advanced (Arain et al. 2013).

Nine of the ten student participants said that they find it easier to pitch-match to a voice despite some being proficient at pitch-matching to a piano. Interestingly, pitch-matching accuracy was better when first assessed but declined when tests were embedded in the lesson. The researcher was unclear as to whether mental preparation prior to the first tests of prolonged concentration in the lesson had been influential (Pfordresher and Brown, 2007; Nichols, 2015).

Commented [SS29]: How does this relate to the focus group participants, of whom you state there were 5?

According to Fadel et al. (2018) pitch-matching improves with a live voice model, a point with which the focus group concurred. The vocal gesture (Leveque, et al. 2012; Granot, et al. 2013) was considered import by the group who stated that pitch-matching via zoom, was as effective as a live **lesson** (Terry, 2021). FGA described the connection: “I feel it from them as well as them feeling from, me, that’s the mirroring.”

Commented [SS30]: Interesting. Any literature on teaching singing remotely in this way?

The words “transference” and “empathy” were used to describe the process. SP4 said that when he sings to a recording his pitch-matching can be variable “I can sing along to something and then I try to do it again and it just goes”. In the lesson he was able to accurately sing back a melody sung by the researcher. SP6, unusually has difficulty pitch-matching a human voice: “I’m finding it hard to pitch the notes off your voice recording”. He asked the researcher to sing a phrase repeatedly during his

lesson. SP6 was reminded to look at the sheet music so that he could see the intervals on the page but instead he looked at the researcher as if trying to lip read (Churches, Dommert and Devonshire, 2017).

SP6 might have needed the vocal gesture of seeing someone sing, to remember the pitch. A study into congenital amusia (Lima, et al. 2016) found that individuals unable to neurologically decode music were also unable to differentiate between real and sham emotion in the facial expressions of others. The researcher hypothesises that the role of human mirror neuron system (MacGillivray, 2009) could therefore, be a key factor when considering pitch-matching accuracy.

Cross gendered pitch-matching

The group agreed that when a female practitioner is instructing a male student there are challenges. It is easier for a student with changed voice to pitch to a male teacher. FGB said he has accompanied lessons given by female teachers has been asked to demonstrate pitches. The female practitioners said that they sing low in their range to demonstrate the correct timbre. Both the researcher and female focus-group participants found that singing in their low range can cause the student to sing an octave lower than the source note (SP10). The student participants had done this but over time the singers were able to adjust find the correct octave. This demonstrates that experience and familiarity with the practitioner's voice play a part in pitch-matching (Holmes et al., 2018, Fontaine, Love and Latinus, 2017). FGB and FGD said that they are aware that some male teachers sing in falsetto when demonstrating a melody to female singers (Tranz, 2002), but neither had found this necessary personally. The researcher has heard a colleague demonstrating to a mixed group of trebles and female singers in his falsetto and witnessed its efficacy. FGB and FGD were training college age students so possibly the experience level of these singers enabled them to adjust to a masculine sound source and sing an octave higher.

The researcher hypothesised that differential in years since puberty, compared to the male college students, could also be a factor in their ability to adjust, the cognitive region of the brain having stabilised (Bramen et al, 2011).

Commented [SS31]: Interesting. Any literature to reference here? Why might familiarity with the vocal source help?

Practitioner Strategies

The female focus-group participants had no difficulty teaching boys who were pre-voice-change. When students were in later stages of puberty, the teachers sang low in their range to demonstrate a more masculine TA dominant sound (Zhang, 2016). FGA explained that: "I just go down in exercises of a fifth until... I'm at the lowest part of my voice". The group confirmed that there are challenges: "they find it harder to pitch to my voice ...if they are pitch-matching to a female voice they've got to sing an octave lower unless the female voice can actually reach those notes". Two stages were identified in pitch-matching development. Firstly, pitch-matching to a voice and secondly to a keyboard instrument. This implied that pitching to a voice is easier: "it's still a problem because they (then) have to pitch-match to a piano." A developmental milestone is reached when the mental adjustment between hearing a note and producing it accurately an octave lower is achieved: "boys voices have started to settle... when I can sing a C and they can return it an octave lower" (FGA). The researcher has additional evidence from students' first-hand accounts of voice-change. These notes were collected with student consent yet prior to the study, and thus cannot be used in this report.

Commented [SS32]: Interesting. Have you looked at literature on resonance and resonant qualities? Do you consider 'TA' and 'CT' dominant useful distinctions for the male/female voice?

The focus group concurred with Cooksey (1999) that voice change takes up to thirteen months. The most difficulty in pitch-accuracy was experienced during voice change (Nichols, 2015).

Commented [SS33]: What does the research say?

The focus group stressed the importance of students' ability to "feel grounded" and to use their modal voice (speechlike quality). The researcher has found during lessons, that greater muscular engagement improves pitch-accuracy.

The role of experience: positive

Positive reinforcement from teachers, (Nickerson, 2022) and emotional preparation prior to voice-change, was agreed by the group to be an important determiner singer confidence post-puberty. SP7 and SP9 had come from a stage school and were the most confident. They had had weekly lessons and SP7 described how pieces were transposed weekly to suit his shifting range and how students were encouraged to sing

throughout puberty. FGA and FGC described their methods of teaching through voice-change, and these aligned with the experiences of the SP7 and SP9. FGC described how she explains to students prior to voice-change what to expect at each developmental stage: "I'm always being encouraging and saying 'this is you. You loved that voice, but this is also you. This is the new you. Your body's changed, your mind has changed, and this is the new you'."

The group agreed that encouragement is vital to the confidence of the student which manifested in higher levels of competency. SP9 said: "My teacher really helped ...that's why I can sing well now."

Exposure to and participation in music

FGD said: "I don't remember a time when I found it hard to grasp a tune", but that he had not sung much during his teenage years apart from in aural tests. If FGD's teen singing was limited to music exams, then the phenomenon of short-term accuracy, might have been an unconscious occurrence. The student cohort were more accurate in a short test but less so during the lesson. FGD equated pitch accuracy pre-voice-change with confident intonation post-puberty. SP7 and SP9 were accurate singers and had sung extensively as **trebles**. Demorest and Pfordresher (2015) found that singing experience was a significant factor in pitch-accuracy in late adolescence as was musical training (Pfordresher and Demorest, 2020).

The student participants were asked about their musical exposure. All the participants expressed enthusiasm for music. One student described his extensive and eclectic vinyl record collection, another had spent £300 on a pair of headphones and had stored over two thousand songs on Spotify. A third listened to music all the time and often so loudly that he had not noticed his car engine failing. One "made beats" with his friends and another sang loudly to Whitney Houston when alone. Music is an important part of the student-participants' lives, but apart from three, all said that they felt insecure about their pitch-accuracy. SP7 and SP9 had sung extensively as trebles, which the focus group identified as determiner of pitch-accuracy in adolescence as did Demorest and Pfordresher (2015). SP5 asserted he had never had pitch-matching issues and self-identified as autistic. The researcher hypothesises that links between **enhanced pitch-**

Commented [SS34]: What is your assessment of this data?
What literature can you bring in?

matching ability and autism (Wang, Pfordresher, et al, 2021) might explain this anomaly.

Commented [SS35]: Interesting. What are the links? Why might this be?

The impact of negative experiences

The focus Group considered that if teacher support has been unavailable to a student during voice-change this would impact the student's attainment and confidence in later life. FGB posited that with many of the students he sees lacking vocal experience, that there would be: "a lot of psychological implications around singing from that."

The recent experiences of SP1 have meant that he finds it challenging to participate in group vocal classes and has been seeking guidance from the college councillor.

FGB said that if a boy is a keen singer prior to voice change he may well have been teased by his peers, but his successes would have negated the effect of bullying. With the onset of voice-change, however, there might be a loss of identity and status (Monks, 2003).

Comparison with other singers seems to have affected the confidence of the student cohort.

SP2's remembered an accomplished performer whose voice "cracked" noticeably during a performance. Perhaps fear of the same thing happening to him has affected his confidence.

SP3 and SP8 assert that boys cannot sing well and most of the cohort think that girls are better singers. They did not see bias in the preferment of girls in previous establishments, merely female accomplishment. SP4 felt at ease in group sessions only when students were of equal standard; he was negatively affected by 'confident singers.

Comparisons with other singers have affected their confidence. Low teacher expectation might contribute to student self-perception. SP4 said that he attended a group called "singing for dancers" at which he smirked and rolled his eyes. This could imply a low level of expectation from the teachers delivering the course, and from the

student reaction, he believed this to be the case. He went on to say that technical terms were explained but at the time this did not interest him. It could therefore be said that low expectation could stem from an historic lack of interest on the part of the student attendees.

FGB and FGD had ceased singing during voice change, as had one of the confident student singers. FGA cited an AOTOS lecture on voice-change recalling how two lecturers had also stopped yet were now successful singers. Historically, British cathedral choristers stayed as trebles until catastrophic voice change (Ashley, 2018). Singers were then retired and invited to re-join when their voice had settled. Recent advice has been to allow voices to glide downwards transposing music accordingly (Williams, 2010).

A coping tactic used by the pitch-uncertain singers in the study group, has been to find repertoire that could be spoken rather than sung. Both SP1 and SP8 had chosen deliberately wordy songs that relied on acting ability: "I could just talk my way through it".

Conclusion

The most critical factors to poor confidence are pitch-uncertainty and lack of vocal control. Several of the student cohort face challenges in both areas. They are currently overcoming constriction and general tendency to over manipulation of the larynx. Worse affected are SP1, SP2 and SP3. All have made considerable progress since their first interviews with the researcher.

SP10 was added to the study as comparison to the first years. It was discovered that his age and experience were in fact similar. His uncertain intonation was therefore not anomalous to the study but reinforced the findings.

Where the participants were under twenty and had had limited training, they were the most pitch-uncertain (SP1, SP2, SP3). Constriction and inappropriate larynx raising, were faulty strategies they used to improve tuning.

Practitioner guidance prior to and post voice change affects skill, accuracy, and confidence.

FGD: summarised the focus-group consensus saying what matters is: "the re-enforcement and the training that you get prior to puberty". The researcher agrees but warns against unconscious self-serving attribution-bias (Caccavale, 2020).

Two of the most confident singers had significant training prior to college. SP2 however, had equivalent training but is an uncertain singer and lacks confidence.

The amount of time passed since puberty

Pitch-matching skill could be affected by physiological changes that take place during puberty, during which the male larynx grows up to 60%. This presents co-ordinational challenges to singers in that they must adapt to a changed instrument (Otero, 2015). Neurological development concurrent with puberty affects regions of the brain associated with tuning (Ford, Roach and Mathalon, 2021). Practitioner guidance may minimise these effects, yet unsupported students may experience delays in vocal proficiency whilst systems stabilise.

SP8 and SP10 are both twenty. SP8 has had a changed voice for three years and reports that his pitching is improving. SP10, a third year, struggled with tuning historically, but was surprised to score well in pitching tests. The researcher hypothesises SP8 and SP10's age might be connected to improvement in accuracy.

Some singing success, as this balances negative comparisons with other singers and of itself gives confidence.

SP6 has sung a leading role in a college musical but confesses that pitching is still difficult. He does not have any anxiety associated with singing. SP9 has sung several leading roles and is a confident singer.

Recommendations

Based on findings, the researcher recommends that first year degree students

- Answer questionnaire on vocal experience
- Be tested for pitch-matching accuracy
- Be interviewed to ascertain confidence
- Be assigned extra lesson based on need

This should facilitate faster vocal progress and improved final learning outcomes for both students and the college.

Personal learning outcomes.

Despite self-perceptions of being a disorganised procrastinator, the researcher has devised and executed this study.

Her personality traits of excess data gathering and planning for all possible outcomes, have caused her to be framed as indecisive and slow by divergent personalities (Kelagina Beedu, 2021). She accepts judgment first and reflects upon its veracity later causing negative self-labelling (Dewey, 1910).

Stimulated by the research process, the researcher has been inspired to communicate emergent findings with others, delighted by their interest. Communication and collaboration have been novel, and a sense of belonging to a pedagogical community heartening.

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Appendix 1

Unstructured interview questions first round

How much vocal experience did you have before coming to college?

How many one-to-one lessons did you have prior to audition?

Can you pitch match to a piano?

Can you pitch match to my voice?

Has pitch-matching to a female voice ever been difficult for you?

A pitch matching test was then conducted. The researcher played C3, E3, and G3 on the piano pausing between notes for the participants to pitch-match.

The researcher sang A4 and asked the participants to pitch-match

C5 was then sung by the researcher and once again the participants were asked to pitch match.

Unstructured interview questions round two

How old are you?

Roughly when did you go through voice change?

How did you find the group lessons (if applicable) you had prior to college?

Do you think that female students were favoured?

How much help did you get with voice change at your previous school/college?

When listening to a vocalist do you prefer to listen to male or female artists?

Please give three words that describe your feelings about singing

Did singing in tune get worse at any point over the last few years

Do you listen to music much?

Appendix 2

Focus Group Questions

How much experience do you have teaching boys pre, post and during voice change?

Have you noticed that the students' ability to pitch match changes?

Does it improve with age?

Does it improve with experience?

Does it ever get worse?

I will read you a short passage from a choral director's blog. What are your thoughts on what you have just heard?

Chris Rowbury blog 12. pitching from the opposite gender

"This is most problematic when you have a mixed tenor section. It's often the case that two different notes need to be given: one at pitch, and the other an octave away from that. If a woman pitches a note to a man, usually the man will make an automatic adjustment and sing an octave below her. Similarly, if a man pitches to a woman, she will usually automatically sing an octave higher. However, some singers do get confused (especially when there are male and female singers in the same section) especially if your choir leader can sing at pitch.

solution: you will be able to sort this out in rehearsal. Gradually singers will get used to their choir leader and know which starting note helps the best. See How male singers can successfully pitch from a woman (and how women can pitch from a man)."

Have you noticed a similar phenomenon whilst teaching?

What are your strategies for coping if a student cannot pitch match to a piano?

What are your strategies if a student cannot pitch match to you?

To what extent do you think pubertal voice change is a factor in pitch matching and tuning?

Do you think girls are better at pitch-matching than boys?

Appendix 3



Dear Practitioner,

Thank you for agreeing to participate in the focus group organised by Yvette Cummings of the Voice Study Centre and University of Wales Trinity Saint David, to aid with research on post pubertal male tuning.

The intention of the researcher is to investigate the extent and impact of negative issues experienced by male students post voice change. The purpose of the focus group is to gain the practitioners' perspective of the situation; to discover the prevalence of intonational difficulties, and to discuss coping strategies.

Proposed date of the online focus group will be Sunday 6th November 2022 at 10am.

By participating you agree to abide by the terms and conditions indicated below.

I may leave the focus group at any point

I will not share the comments and views of the other participants and will keep the identity of the focus group members private.

No third parties shall be named.

I give my consent for an audio recording to be made of the focus group meeting

A transcript of the recording and notes taken by the researcher during the meeting will be made available to participants on request via email but must not be shared or modified.

Anonymised comments from the focus group transcript will form part of the study

I am fully aware that data collected will be stored securely, safely and in accordance with Data Collection Act (1998).

I understand that I may rescind my consent for data resulting from my participation in the focus group to be used and that said data will then be destroyed.

Printed Name.....

Participant's Signature.....

Date.....

Researcher's Signature.....

Date.....

Contact Information

This research has been reviewed and approved by the Voice Study Centre and the University of Wales Trinity Saint David Research Ethics Board.

If you have any further questions or concerns about this study, please contact:

Yvette Cummings
Wilkes Academy,
1, Westmead Industrial Estate
Westmead Drive
Swindon SN5 7YT

E-mail: yvette@wilkesacademy.co.uk

You can also contact Yvette's supervisor:

Sophie Scott
Voice Study Centre
The Old Stables
Hadleigh Road
East Bergholt
Suffolk CO7 6QT

E-mail: sophie@voicestudycentre.com

What if I have concerns about this research?

If you are worried about this research, or if you are concerned about the way it is being conducted, you can contact the Director of Studies at:

Voice Study Centre
The Old Stables
Hadleigh Road
East Bergholt
Suffolk CO7 6QT

(or email at info@voicestudycentre.com).

Appendix 4



Participant consent form

20.09.22

I agree to take part in the research study on vocal experiences and possible tuning difficulties of male students on an MT course.

I am over eighteen years of age.

I give my consent for the researcher to make notes during my singing lessons, and to them capturing direct quotations from me for analysis.

I understand that all participants will be anonymised and that I can withdraw my consent at any time during and after the study. If I withdraw from the study, all data gathered concerning my participation will be destroyed.

I am fully aware that data collected will be stored securely, safely and in accordance with Data Collection Act (1998).

Printed name.....

Researcher signature.....

Signed.....

Contact Information

This research has been reviewed and approved by the Voice Study Centre and the University of Wales Trinity Saint David Research Ethics Board.

If you have any further questions or concerns about this study, please contact:

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You can also contact Yvette's supervisor:

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What if I have concerns about this research?

If you are worried about this research, or if you are concerned about the way it is being conducted, you can contact the Director of Studies at:

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(or email at info@voicestudycentre.com).

Appendix 5

Focus Group Transcript and Coding

Student self-perception

Coping/teaching Strategies

Empathy/encouragement

Male practitioner experience of voice change

Sensing

Male Practitioner perspective (teaching males)

Female practitioner perspective (teaching males)

Positive reinforcement

Practitioner assistance

Boys/girls pitch matching

Experience

Uncertainty

Focus group

Researcher Have you all got experience teaching boys pre and post voice change

That's everybody yes? Ok

Have you noticed that students ability to pitch match changes and when its changes?

We are talking pre voice change and does it go offline and when does it correct itself? Are you finding that it corrects itself?

FGC I don't think you can pinpoint an age cos the change happens at different stages just as it does puberty in women.

Researcher: perhaps you could say how long after it starts changing does it kind of come back in?

How long after ..when their voice has settled are you noticing that it goes back in tune again? And at roughly what age are you finding that?

FGC I would say from my experience I teach a lot of boys through change as I work in a prep school and I also teach... so it tends to happen in year 7/8 and erm and they carry on singing and they all do exams at some point in year 8 because they're off to do scholarships and so forth. erm and they've all settled by the time I would say within a year. I would say that it when it's about a year that I know that I can have a voice that can go forward and perform maybe in a more limited range and that range will still keep moving by erm erm.. sensitive which I try to be ha ha! of course to their needs then you can work and..and I'm always checking for where they are as well.

Researcher: that's about voice change . I'm wondering specifically if their ability to pitch match gets gets.. considerably worse at a particular point.

FGB I'm struggling with this because I don't think I've ever taught anybody through erm puberty I've always come in after that I I'm because I've always worked post 16 so .

Researcher: So post 16, how long after 16... what's their pitch matching like at 16?

FGB well Ha ha! sometimes it can be particularly bad erm but I don't know I don't know what they were like before the voice change so I can't comment on the period of time it takes but erm yea I don't know

Researcher: So sometimes bad at 16.

FGB I was trying to think, I was talking to talking to J...just now and I was saying if I could think if had noticed it being particularly worse in boys than girls but then actually thinking about the the.. numbers that I've taught, I guess you've got sort of 4 boys in a class and

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twenty girls it is quite a large proportion of boys that do seem to struggle with pitching it is a lot it's a small proportion of the class but it's a lot of the boys.

FGC you know what I think I don't if this is true but in my experience that if if a boy that's has a changing voice is fortunate enough to have a sympathetic singing teacher through that

period of time that makes sure that they are able to learn about how their new voice feels and then they have no problems afterwards I'm very fortunate that all the students that I've taught about 50% of the boys I've taught have actually gone off to music college and or gone and got scholarships and stuff around that point and I've carried on teaching boys privately that have stayed with me and they've gone in for like the national youth choir or whatever just my experience I do think it's how that part is handled and that if they can learn how to pitch match and learn how their voice feels with somebody constantly saying that's ok the fact that you can't do this today is ok because you will be able to do this you know in a few weeks' time, if they are told that every stage of it so normal and then that they have a handle on it before they leave you it will be fine and I suspect that if people maybe go through a change without having a teacher perhaps come out the other side not having the confidence to know exactly what they are doing with the voice that emerges that that is just my experience.

Researcher: so roughly if they have a teacher through voice change their pitching is ok and so positive reinforcement.. that they are told at every stage that its normal and they are fine er and they go through voice change with a teacher so if they have professional support then their pitch matching is not an issue

FGC in my experience no because sometimes they are in between cos you know (pitch glide up and down)you have all that as they are changing you know and as a female teacher it's hard because you're at times (fry) singing down here and erm and they find it harder to pitch to my voice sometimes because they are an octave lower because they go that bit and then you play the piano and then once they learn and that's just a learning thing and it's a very short period of time and we'll do that together then they think Ok I know what I am doing now

Researcher: the group..do you think it's easier for a boy to pitch match to a piano or a voice just roughly?

FGA the challenge of course with that is of course is that if they are pitch matching to a female voice, they've got sing an octave lower unless the female voice can actually reach

those notes erm I mean work with them pitch matching to erm coz I can get almost to c3 erm so I can erm now now.. I'm talking about however many years it is and its nearly 40 years of teaching I mean I I sing things at their register of course but it's still a problem because they.. they have to pitch match to a piano erm and I wouldn't say in terms of the last question I think I written an article on this I've forgotten all about it where I spoke in Italy and where I spoke at 'Eurovox' I've got articles on the voice but it's years ago now so I don't know if it's going to be useful for you I've got one point in which I say the way in which I work out when the boys have got when the boys voices have started to settle is when I can sing a FGC and they can return it an octave lower which can be quite a useful quote but I would say you know actually the point at which they struggle most at pitch matching is at the point at which their voices are changing and they might be changing every week so that will be between 3 and 6 months but then I have always worked with erm... you know usually boys have been to me or the Trust where I work and we're sliding down between us and then we seem to be alright after that give or take them having to pitch an octave lower than me or the piano

Researcher: yea so you think it's easier initially for them to pitch to a voice than a piano and after over time with experience and guidance then they can pitch to a piano so pitching to a voice is easier.

FGD yes that's my experience maybe because I'm a male teacher but it's not just about the octave on the piano they can hear that it sounds low in my voice and it will reflect easier on them if they can hear that if it sounds high in my voice they know its gonna kinda sound high or that they should be reaching higher with their voice and not sure if it's true for girls though erm there are I know some singing teachers who some male singing teachers, will kind of do the falsetto thing so that they are singing at the pitch they expect a female to sing at I don't do that and I haven't noticed that's it's made a huge difference to females erm but.. but for boys in the first instance whilst they are still learning specially while they are still training at the early stages of training it's easier to..to pitch match to my voice

Researcher: so do we think that the boys, that singers well particularly boys, are copying the vocal gesture is there something about you being in the room with them and making sound because I've read a study that found that erm pitch matching was..was easier to a live singer rather than to a recording, is that everyone's experience?

FGC on zoom so I had to teach on zoom for two terms erm and even I don't know does that count as live, but they were able to do it through the screen ya... but what I think what you mean is an audio recording presumably

Researcher: ya, audio recording is harder for them to pitch match to than somebody singing to them directly where they have some visual input because I'm investigating the role of the mirror neurone which I asked professor X about but he kind of like sort of deflected it so well I kinda didn't get anywhere with that if the mirror neurone is being used then it means or mirror neurones are being used it means that that it will be easier for them to pitch match to a live voice so I'm just looking for verification

FGD can you just explain what the mirror neurone is

Researcher: so, you copy..It's the ability to.. it's like if if.. you know if when you're sitting in an audience and you're watching somebody sing and they may be out of tune you kind of you (gesture) you can feel it you can feel what's going on and you can sometimes feel yourself adjusting to try and make them adjust that's the easiest way I can explain it, you see something and you feel it in your own body

FGA a physiological response yea

Researcher: a physiological response which is initially neurological but then it goes into the motor system of your brain

FGC I'm not so sure about the boys but certainly with the ..the ladies that I work with if I kind of adjust my body then they do copy that so kind of get the same sound but I didn't notice it as much when I was working with the teenage boys so I don't know

FGB yeah I think that there is a bit to be said for the you know what JS just said but obviously as a male teacher pitch matching with boys maybe a little easier for me erm but I have the opposite problem with girls with the kind of energy thing there I can't do the falsetto thing so I always kind of demonstrate the energy you need to get the..the right placement and the right pitch so

Researcher: do you find the girls pitching on the whole is better?

FGB yeah I have yeah I do so what I have done a lot of is play piano for erm female singing teachers teaching boys and I've often found that when I'm in the room there are pitching

issues and they'll just say oh can you just sing that note erm yeah and so I just need to kind of in in my placement for them for the boys to be able to do it and I don't know what those singing teacher s do when they haven't got a male accompanist in the room but erm but I don't know I don't know really I know that's not very helpful but ha ha!

Researcher: well, no it is it is ...

FGA I haven't ever noticed it as a female singing teacher singing in my own pitch for many years for which I sang in my own pitch when their voice was changing I think I have definitely noticed it if I sing in the boys pitch and the same with men but maybe that's something that I sense rather than something that they sense if you see what I mean you you..you, know maybe it's a reversal thing erm I don't know erm they may be sense a relationship too because because.. you know when I'm using M1 erm erm.. chest voice in which..which, they are principally singing in and then they're there is a feeling of resonance connection then where if I'm an octave higher when I'm I might still I might I'm going to be on sort of a cross over then they don't feel a resonance connection so then I think that might be maybe there is something in resonance connection

Researcher: ok maybe something so that's still auditory is it

FGC think its physical though I think they, when you sing anything so I demonstrate something if ever I'm teaching I can feel they can feel where you it's coming from and I do agree with you FGA that erm I sing with breaking voices I can also hmm I can get some good erm I can do a D see I have to have a cold to get a ha ha but erm I do go into I do sing in the chest and I do I do kind of talk about wherever they need to feel it and so you need to especially because I have I have a lot of trebles I've got a treble choir so usually those singers link my top, you know top G kings, princes and then they have to kind of start resonating somewhere they have never resonated before so I do a lot of work on getting them to understand how it will feel different and the to, to learn to balance to bring a bit more head into that sound but it's it's about owning part of their body they've never had to encounter before I think I'm you can only do that by showing them how how it feels and sounds with you can't you yeas.

FGD yes yes I think so I think it definitely facilitates the change singing it it..erm wherever they are I mean personally when they are on that stage erm part of the change I just I just go down in exercises of a fifth until I can until you know I'm at the lowest part of my voice and I

can't go on down with them and then I go back up again I'm you, you know because I think it's really important to feel that grounding and how you change going upwards so that's how I deal with it and they can man(age)... I'm mean that does seem to work erm don't know whether that's relevant or not. yea but I do think I just think that I feel it from them as well as them feeling from from, me that's the mirroring you know so that how I can help them better because I can empathise with what they are feeling

Researcher: yes, so you adjust your source sound what you are producing to try and correct what they are doing hoping that they will copy your vocal gesture

FGA yes I think it's a transference thing you know you do one and they feed that back to you and I can feel what they I do I suppose I'm turning that on its head a bit and saying that it's really important for the singing teacher to feel what they are feeling at what pitch they are .

I'm mean it's not really exactly the same my pharynx is a different length to theirs and you know the larynx is a different length so certain empathy must help feeling will help it

Researcher: some things I was investigating there again, from reading a study that even if it's an even if it's an experienced treble you know pre voice change, they kind of, during puberty part of the brain is developing and the part of the brain that is developing is the... the part that is also responsible for pitch accuracy so kind of go off line it talks about them having a moon face sort of..quite... they just sort of go like (facial gesture) that but it's the cognitive region of the brain that is also connected with the auditory system kind of goes off line during puberty and it's not until after puberty, quite a bit after, you like... when they're about 19 20 that sort of age, that.. that part of the brain is fully developed, and can come back online again, so what I'm talking about because we're sort of talking about voice change quite a bit I'm wanting to see if people's experience aligns with that theory.

FGD is this to do with concentration this is wider than just voice focus then, right?

Researcher: its neurological ability erm.. the part of the brain turns to mush a little bit as its developing so we are seeing them at the institution at which we work, we're seeing them around about when they should be starting to come out the other side of it but I think they are still affected by it and you know when they are a little but older I mean how much is experience how much is is working consistently one to one with somebody you know erm and how much is this neurological issue for me its three issues and I'm wanting to find out how much is neurological how much is experience and how much is it the help their getting

FGB was it you FGC that said erm that you kind of because you've kind of guided them and told them its ok that a lot of the ones we get have never really sung before have the..they come to us erm as being new to singing at that point they are either 16 or 18 ad I that because they haven't had that positive reinforcement but what they have had is probably have had is sort of gentle ribbing and bullying slightly over the voice change because I think boys do go through a lot of that mocking about the voice change and become very self-aware of their voice and then then we're asking them to sing and they've not had that kind of.. I think there's quite a lot in that.. the ones that we've seen.

FGC I do think how its handled makes a huge difference because I haven't really thought about it I've only thought about the boys that I've taught and what they've then gone on to do and actually its quite extraordinary I think that the percentage that have gone on to do singing at college or university and come back I've had I've had a boy come back I have a boy who went away and did other stuff and then contacted me and said I want more lessons I need to come and see you he hasn't gone to the people he's gone to the people ..you know I've had so many boys come back to me saying I want to work with you before I audition to colleges maybe that's something about me I don't know but I think it's also about trusting the person with your voice because of how you've handled that change and I suppose the affirmation of when they when they start the change and you know you have super successful trebles who sing in cathedral choirs and you say this is what's going to happen you're going to lose this bit here and it's all totally normal or be frightened you can't stay as a little boy for ever but we're going to go through this together and I promise when we come out the other side within in 12 months you will be able to have a handle on your voice and this I thinks just stops and then it happens and I look remember I said you gonna loose these note and all that stuff and if somebody says to you this is normal it's totally developmental and we are going to work through this together and I promise it's all going to be fine and you'll come out the other side that already makes it less scary and then and then happens and they're they go and do their next grade with their new voice and they get a distinction and whatever they kind of all that is affirmation cos it's how they how they see their voice and how they see themselves how they see their voice as part of themselves as also you know? I'm always being encouraging and saying this is YOU, you loved that voice but this is also you this is the new you it's part of your body's changed your mind has changed and this is the new you and I think if they then walk forward with that voice this is mine and hopefully they will have a good relationship with it.

FGB I don't know what JS what your experience was of this but that does sound so different coz I wasn't a singer going up I was a musician but I wasn't singing and I and I remember not wanting to speak when I was when my voice was changing I just didn't want to make any sound because I was so embarrassed about what would come out erm and I feel like if boys if if that's the alternate experience then I can imagine there being a lot of psychological implications around singing from that if they haven't had that kind of positive reinforcement you know I think that could be quite common.

FGD my voice my voice broke really slowly I think and erm I also didn't sing a lot when I was a teenager but..but, I remember having to lots of aural exams and stuff as part of my piano training I don't remember a time when I found it hard to grasp a tune or sing a melody erm I can't remember a time when I thought I was able to do this last week or whatever and now suddenly I'm having loads of trouble but what I think seems to be the consensus of the group is that it's not necessarily to do with the physiology or anatomy but more to do with the re-enforcement and the training that you get prior to puberty and then post puberty and er erm I don't have much experience coaching boys like through it but I've

taught boys before puberty and I teach boys after puberty and you can tell who has had training and reinforcement prior to getting to college and the pitch match thing is more erm reliant on that previous experience an training if you can learn to feel where a note sits in your voice at age 13 then you don't lose that ability as you get older maybe it's just a confidence thing I don't know there are boys that I teach who are 17/18 and are flat as a pancake and I wouldn't say that that was erm there are girls that struggle with pitch matching too and their voices are like they don't go through that same erm kinda change in the same that boys do so it's kinda hard for me to put a correlation between the process of the voice breaking I think it's more to do with the training and the reinforcement that they have had or haven't had

Researcher however, if you have had extensive training just playing the devil's advocate here, maybe that aids your ability to adjust to what might be going on neurologically with you

FGA I think that I think that's true and the other thing occurred to me as you were talking was the particular thing you talked about your investigating just tell me again whether things go 'off line' during the voice change well it seems to me that somehow that might be almost a protective mechanism 'cos I have you know and I do have an article I don't even remember it but I've got it now you know the one I was telling you about the boys voices for

AOTOS well I have a written article relating to that the AICI the Italian Teachers magazine when I went to talk you know I was thinking about this is a sort of protective mechanism going off pitching things going offline exactly the same time as things physiologically are changing in here so rapidly that it would be virtually impossible to to pitch match because the next week it's something completely different do you see what I mean it its sort of a a eerrrrrr..bit of a coordination between the two elements and and I'm thinking specifically the fact that most of the boys I've had most have slid the ones who have become basses of baritones have changes more obviously you there's a sort of coordination in that I think between the physiological thing and a change in the brain

Researcher: Yea I kind of agree with that

FGA almost as a protective thing

Researcher: almost as a protective thing so there is a role that anxiety and ...(FGC.. you were saying that if you help them through this this improves things nobody is noticing a definite a definite, they go through a really rough patch..erm and and the they are fine again you know it its difficult though because maybe if we are giving them lessons during it the lessons the the.. beneficial effect of the lessons are so significant that maybe that it's kind of masking the physical and neurological effect you know what I mean maybe we are helping more than we think we are

FGC I'm trying to imaging that if you are a treble a really successful treble and then you have to go through voice change without any support image how that would be :

You know last year at the AOTOS autumn conference they had the erm they had the erm teachers for 8 that came with their students I think you know to use.. they have grief they grief over losing the voice that identify as who they are and these are people you know are singing Allegri miserere and then you know they are the high flyers they are the princes of you know what I mean and then not only lose all that but be left with a mess for a little while that you have no control over and if you do all that with no support that must be really difficult to come out the other end and then go a learn what do I do with this so erm obviously as we are singing teachers we help the poor people but if you had to do it without it would be terrible

FGB if you add on all that if you add on all the other insecurities that the non-singing based insecurities that develop when they are at that age as well you know there are so many

other things happening and and they are probably.. and depending on the upbringing I imagine, I think that boys, young boys who sing are being a little bullied for singing probably erm because they're maybe getting through it because they are so good, so they are the princes and they're doing all this wonderful stuff, and then there is a lot psychological implications to what is happening there and if they are on their own and can't be helped and they have got a lot of negative reinforcement and no positive reinforcement I image that's quite... terrible really

EGC the male singers who also talked about going through their own puberty some of them said they stopped singing and went into sport cos of course they've got the bodies that have suddenly become strong er and all that kind of thing and it ties in with like fitting in with the lads and and..doing the sporty thing and they come back as later teenagers which could tie in with why you go off piste I'd be interested I'd be really interested in more in wondering about young singers who have support through that verses those singers who don't have the support give up and then come back erm then obviously these people come back as late in later teenage voice that has now settled and wondering about how they are as a man and they've done the transition by backing off and then physically relearning who they are

I was going to read you something from a choral director's blog said that when men and women sing in unison, they all think they are s... (The time ran out at this point)

I don't think you can pinpoint an age maybe in a more limited range I'm struggling with this because I don't think I've ever taught anybody through erm puberty but I don't know I don't know what they were like before the voice change so I can't comment on the period of time it takes but erm yea I don't know saying if I could think if had noticed it being particularly worse I guess I don't if this is true I suspect that if people maybe go through a change I don't know if it's going to be useful for you maybe because I'm a male teacher but it's not just about the octave on the piano not sure if it's true for girls though erm even I don't know does that count as live but can you just explain what the mirror neurone is

I'm not so sure about the boys but I didn't notice it as much when I was working with the teenage boys so I don't know I don't know what those singing teachers do when they haven't got a male accompanist I don't know I don't know really I know that's not very helpful but ha ha! maybe that's something that I don't know erm they maybe I don't know what JS

what your experience was of this but maybe it's just a confidence thing I don't know hard for me to put a correlation between the process of the voice breaking hard for me to put a correlation between the process of the voice breaking just tell me again erm I don't have much experience coaching boys like through it

so, it tends to happen in year 7/8

I would say from my experience I teach a lot of boys through change as I work in a prep school, and I also teach... numbers that I've taught

I've always come in after that I I'm because I've always worked post 16

but in my experience that if a boy that's has a changing voice is fortunate enough to have a sympathetic singing teacher through that

period of time that makes sure that they are able to learn about how their new voice feels and then they have no problems afterwards I'm very fortunate that all the students that I've taught about 50% of the boys I've taught have actually gone off to music college and or gone and got scholarships and stuff around that point and I've carried on teaching boys privately that have stayed with me and they've gone in for like the national youth choir

or whatever just my experience I do think it's how that part is handled and that if they can learn how to pitch match and learn how their voice feels with somebody but in my experience that if and that if they can learn how to pitch match and learn how their voice feels with somebody that is just my experience. you know usually boys have been to me

in my experience no because sometimes they are in between cos you know (pitch glide up and down)you have all that as they are changing you know I know some singing teachers

on zoom so I had to teach on zoom for two terms I always kind of demonstrate the energy you need to get the..the right placement and the right pitch so I haven't ever noticed it as a female singing teacher singing in my own pitch for many years for which I sang in my own pitch when their voice was changing I sing with breaking voices I can I've got a treble choir so usually those singers boys that I've taught and what they've then gone on to do and actually its quite extraordinary I think that the percentage that have gone on to do singing at college or university and come back I erm and I feel like if boys if. but I've

taught boys before puberty and I teach boys after puberty cos I have you know and I do have an article I don't even remember it but I've got it now you know the one I was telling you about the boys voices for AOTOS well I have a written article relating to that the AICI the Italian Teachers magazine when I went to talk you know I was thinking about this is a

but I've taught boys before puberty, and I teach bots after puberty

sensitive which I try to be of course to their needs then 12 months you will be able to have a handle on your voice and this I think just stops and then it happens and I look remember I said you gonna loose these note and all that stuff and if somebody says to you this is normal it's totally developmental and we are going to work through this together and I promise it's all going to be fine and you'll come out the other side that already makes it less scary and then and then happens and they're they go and do their next grade with their new voice and they get a distinction and whatever they kind of all that is affirmation cos it's how they how they see their voice I'm always being encouraging and saying this is YOU..you loved that voice but this is also you this is the new you it's part of your body's changed your mind has changed and this is the new you and I think if they then walk forward with that voice this is mine and hopefully they will have a good relationship with it. certain empathy

if a boy that's has a changing voice is fortunate enough to have a sympathetic singing teacher through that I do a lot of work on getting them to understand how it will feel different that does seem to work

period of time that makes sure that they are able to the learn about how their new voice feels and then they have no problems afterwards do think it's how that part is handled

it definitely facilitates the change singing it

I do go into I do sing in the chest and I do I do kind of talk about wherever they need to feel that said erm that you kind of because you've kind of guided them and told them its ok that a lot of the ones we get have never really sung before have the..they come to us erm as being new to singing at that point they are either 16 or 18 and because they haven't had that positive reinforcement if that's the alternate experience then I can imagine there being a lot of psychological implications around singing from that if they haven't had that kind of positive reinforcement you know I think that could be quite common

I do think how its handled makes a huge difference because I haven't really thought about it I've only thought about the boys that I've taught I've had a boy come back I have a boy who went away and did other stuff and then contacted me and said I want more lessons I need to come and see you he hasn't gone to the people he's gone to the people ..you know I've had so many boys come back to me saying I want to work with you before I audition to colleges maybe that's something about me I don't know but I think it's also about trusting the person with your voice because of how you've handled that change and I suppose the affirmation who sing in cathedral choirs and you say this is what's going to happen you're going to lose this bit here and it's all totally normal or be frightened you can't stay as a little boy for ever but we're going to go through this together and I promise when we come out the other side within in 12 months somebody says to you this is normal it's totally developmental and we are going to work through this together and I promise it's all going to be fine and you'll come out the other side that already makes it less think seems to be the consensus of the group is that it's not necessarily to do with the physiology or anatomy but more to do with the re-enforcement and the training that you get prior to puberty you can tell who has had training and reinforcement prior to getting to college and the pitch match thing is more erm reliant on that previous experience an training

I just I just go down in exercises of a fifth until I can until you know I'm at the lowest part of my voice and I can't go on down with them and then I go back up again I'm you, you know because I think it's really important to feel that grounding and how you change going upwards so that's how I deal with it and they can man(age)... I'm mean I think it's a transference thing you know you do one and they feed that back to you and I can feel what they I do I suppose I'm turning that on its head a bit and saying that it's really important for the singing teacher to feel what they are feeling at what pitch they are .

so certain empathy must help feeling will help it

'off line' during the voice change well it seems to me that somehow that might be almost a protective mechanism 'sort of protective mechanism going off pitching things going offline exactly the same time as things physiologically are changing in here so rapidly that it would be virtually impossible to to pitch match because the next week it's something completely

different do you see what I mean there's a sort of coordination in that I think between the physiological thing and a change in the brain it's really important to feel that grounding I think it's a transference thing you know you do one and they feed that back to you and I can feel what they I do I suppose I'm turning that on its head a bit and saying that it's really important for the singing teacher to feel what they are feeling at what pitch they are .

so certain empathy must help feeling will help it

through their own puberty some of them said they stopped singing and went into sport they come back as later teenagers obviously these people come back as late in later teenage voice that has now settled my voice my voice broke really slowly I think and erm I also didn't sing a lot when I was a teenager I don't remember a time when I found it hard to grasp a tune or sing a melody erm I can't remember a time when I thought I was able to do this last week or whatever and now suddenly I'm having loads of trouble

it is quite a large proportion of boys that do seem to struggle with pitching it is a lot it's a small proportion of the class but it's a lot of the boys. do you find the girls pitching on the whole is better? yeah, I have yeah, I do

constantly saying that's ok the fact that you can't do this today is ok because you will be able to do this you know in a few weeks' time, if they are told that every stage of it so normal

as a female teacher it's hard because you're at times (fry) singing down here and erm and they find it harder to pitch to my voice sometimes because they are an octave lower because they go that bit and then you play the piano

if they are pitch matching to a female voice, they've got sing an octave lower unless the female voice can actually reach those notes I can get almost to c3 erm so I can ern now now.. I'm talking about however many years it is and its nearly 40 years of teaching I mean I sing things at their register of course but it's still a problem because they.. they have to pitch match to a piano

you can learn to feel where a note sits in your voice at age 13 then you don't lose that ability as you get

I work out when the boys have got when the boys voices have started to settle is when I can sing a C and they can return it an octave lower the point at which they struggle most at pitch matching is at the point at which their voices are changing and they might be changing every week so that will be between 3 and 6 months and then we seem to be alright after that give or take them having to pitch an octave lower than me or the piano

it's easier initially for them to pitch to a voice than a piano and after over time with experience and guidance then they can pitch to a piano so pitching to a voice is easier.

J yes that's my experience

but what they have had is probably have had is sort of gentle ribbing and bullying slightly over the voice change because I think boys do go through a lot of that mocking about the voice change and become very self-aware of their voice and then then we're asking them to sing, and they've not had that kind of.. I think there's quite a lot in that.. the ones that we've seen that does sound so different coz I wasn't a singer going up I was a musician but I wasn't singing and I and I remember not wanting to speak when I was when my voice was changing I just didn't want to make any sound because I was so embarrassed about what would come out I'm trying to imagine that if you are a treble a really successful treble and then you have to go through voice change without any support image how that would be .

they have grief they grief over losing the voice that identify as who they are then not only lose all that but be left with a mess for a little while that you have no control over and if you do all that with no support that must be really difficult to come out the other end and then go and learn what do I do with this so erm obviously as we are singing teachers we help the poor people but if you had to do it without it would be terrible

if you add on all the other insecurities that the non-singing based insecurities that develop when they are at that age as well you know there are so many other things happening and and they are probably.. and depending on the upbringing I imagine, I think that boys, young boys who sing are being a little bullied for singing probably erm because they're maybe getting through it because they are so good, so they are the princes and they're doing all this

wonderful stuff, and then there is a lot psychological implications to what is happening there and if they are on their own and can't be helped and they have got a lot of negative reinforcement and no positive reinforcement I imagine that's quite... terrible really

hey, see themselves how they see their voice as part of themselves as also you know? I'm always being encouraging and saying this is YOU..you loved that voice but this is also you this is the new you it's part of your body's changed your mind has changed and this is the new you and I think if they then walk forward with that voice this is mine and hopefully they will have a good relationship with it.

Appendix 6

Reflective Diary

20th September 2022

Codes: Positive self-image

Negative self-image

Negative perceptions

Coping strategies

Stress/anxiety

aspiration

SP6 Lesson 1 He is a tenor has sung the role of Billy Flynn. He has never had a one-to-one lesson. Audition song 'Wall in my head' (but is bored with it and says he wants something more cheerful from Jamie). Loves 'Big news' from Parade. Loud TA dominant speaking voice but varied pitch that easily flips into tenor range. His singing is much lighter than his speaking. Pitch perfectly to piano variety of notes. Could not pitch to me. Really wanted to sing 'Change partners' as he could connect to it emotionally 'I've been like that' Describes himself as an actor / singer. Hardly any muscular engagement, coasting. Possibly a big voice but under-energised. Brain to body connection slower than the dancers.

Could pitch to a piano (all notes) My A4 OK my C5 inaccurate

SP6 Lesson 2 "I'm finding it hard to pitch the notes off your voice recording" (from the last lesson)

'My voice doesn't want to do enough sliding" second pitch matching test (imbedded) all the piano notes accurately sung. Accurately sung back my A4 but C5 inaccurate. He had become bored with "change partners" and had been given "what'll I do" by one of the MDs.

He said, "I'm not getting the first bit, do you mind singing it for me?" I did so and he recorded me. SP6 had difficulty learning the verse of the song despite many repetitions. I tried singing a phrase and asking him to repeat it, I tried playing the melody on the piano, but his favoured method was to sing along with me and appeared to be watching me rather than the sheet music, as I had to keep drawing his attention back to this as a visual aid.

Pitch matching the same both times

It seems that although many of the participants have had little to no experience of individual voice lessons, most have had group lessons in an ensemble or choir (I need to check this) Some said that they listen to lots of music. Most appear to be musical.

In previous years pitch matching has been more of an issue than with the current cohort. Is this because they are all older as they are on the degree course rather than on the BTech when they would typically be around 16? The current cohort are between 18 and 20 on entry to the college.

3.30 SP10 3rd year degree student

8 weeks of 45 mins groups of 15 mix gender

Received no guidance in prior to auditioning. When singing in groups the same initial pitch was given for everyone even though it was a mixed group. 'had to sing a lot of girls' songs'

'It wasn't enjoyable, it was something I had to do to keep the teachers happy.

'I'm sort of the comedy side kick I'd like to be leading man, but I don't think I can sing well enough'

'I surprised myself there' C3 E3 G3 spot on, sang an octave lower when source note low (A4), but pitch matched an octave lower than me when I sang higher in my range (C5).

Do you have any problems with pitch matching?

'Well sometimes I sing a song I think I've absolutely smashed but then I'm told I'm pitchy' when was the last time this happened 'Monday in a group session.' 'She told me where I was going wrong and tried to help ... I have done some prep for this lesson' sang 'I'm still standing by Elton John'

The opening section was great, all was sung in tune, but he had a bit of constriction.

From speaking voice, I assumed baritone and was surprised by the song choice. Does he always sing tenor rep? 'you say..I'm singing this and they say oh ok ...(Rolls eyes) I appreciate your honesty.no one has suggested that I might be singing the wrong songs'

'I didn't enjoy singing' (in a group before college) we were all trying to get into college...I think the bloke had a day job ... but he didn't care. he just took the money'. You didn't get any help 'no'. 'It wasn't until we were working on (the college show) with (.... &....) that I thought ..you know I think I can do this'. 'I'm in my third year and when I leave, I want to get a job on a cruise ship. I know I can get through the dance auditions ok, but I won't make it through the singing round.' And stress

Pitch matching good

First Lesson: SP10 has been in college for three years and is keen to learn but previously technical singing lessons have been scarce. He requested extra help as he was worried that he was running out of time, and he was having difficulties with intonation. He wasn't sure

which voice type he was (no one had told him) and he thought that most roles in MT were sung by tenors. He was straining to try to reach the highest phrases in songs that were too high for him. He has put a lot of time and effort into his singing and practises regularly and sings energetically. I gave him "You do something to me" by Paul Weller which is a pop song with a lower tessitura.

He had an audition for an agent and initially thought he would have to sing a pop song, so we worked at the Paul Weller piece in detail. He was confident by the end of the session and his tuning was good.

Second lesson: The audition went well (this was corroborated by HOD) but "everyone was singing MT" so he switched to a song from Ordinary Days at the last minute. For the remainder of the lesson, we worked on "Kansas City" as he wanted to overhaul his rep folder and didn't have anything early. He learnt this piece quickly and said that he enjoyed it and could see himself in the role. A few slips with tuning but this was due to unfamiliarity. He sang the piece well and started to add some movement.

Third lesson: Prior to the lesson I asked one of the drama teachers who takes "acting through song" if SP10 had brought "Kansas City". When I had reminded him who SP10 was he said "OH no I haven't seen the third years yet. All I've heard him sing is "dancing through life" but it was awful both times, he can't sing!" I queried this statement and he said "well maybe it's the wrong song but he needs to stop singing it, it's awful" the teacher had not suggested a different song or that the role was too high. In the lesson SP10 sang Kansas City very convincingly so I next suggested "Try me" from "She loves me". I pointed out that some of the recordings I had heard online were transposed up so he should not try to emulate or sing along with those singers. This is a difficult song with octave intervals key changes and sections of dialogue. Despite this SP10 made a reasonable attempt.

Lesson 4: SP10 sang "Try me" with only a few slips. This is a long song, and it is still new to him. I said that he had made great progress as he had learnt one new song a week. We discussed other roles he should look at moving forward and reflected that he might aim his sights higher than a job on a cruise ship. The drama teacher had also said "there's something about him, he could do well".

SP9 Lesson 1. Has had **lots of leading roles in** shows, Pilate in Jesus Christ Super star, Seymour in little shop, Jesus in Godspell. Pitch matched to piano accurately sang easily to my voice 100%. I gave him 'A pretty girl is like a melody' and he managed this well says he 'I like the old songs. Is not supporting enough, issues with lip trills and not enough volume. Responded well to 'anchoring' exercise with stool. Has a brother in Choir of man.

SP9 Lesson 2

'when I sang Gavroche my voice was breaking and they just said listen to the him (the cast double) I did what I could, **I tried to use the cockney accent to help** and it did a bit, and in the end bit (where the character is dying) **it didn't matter that my voice was breaking because it was sad**'

Constant use of 'breaking' rather than 'voice change' however no negative connection to the word seemingly. Lots of admiration for the staff at Italia Conti particularly the male teacher who took them for their group sessions.

Still not using his body enough.

'My voice broke really early I was about **eleven** and obviously I was the only one'.

Did your pitching get harder at any point? 'Well, when my voice was breaking yes, I suppose.. **it was a long time ago**.'

Pitch match test repeated C3, E3, G3 to piano perfect. To my voice A4 perfect C5 sang the correct octave no hesitation.

Were you able to pitch well before? 'I don't know really I think so'

Three words **intriguing freeing expressive**.

So do you think the girls were favoured (at Italia Conti) 'My teacher (group teacher) really helped I had a female teacher and she just said **sing it lower every week** (one to one lessons) but my group teacher said sing it out you know sing your top notes'.

Do you mean that you used your falsetto notes and your full voice notes? 'Yes! And that really helped keep my range **that's why I can sing well now**'.

We worked on 'count your blessings'. He wanted to sing this down an octave 'like the recording I heard' This song was recorded by Bing Crosby who was a bass baritone, so I think he was responding to the timbre of the recording. "I really like the old songs there like smooth you know" (gesture) SP9 still has problems getting this on his body and lip trill still not happening. I noted that the composer's dynamic which is MF and I asked him to join me in discovering what the composer might have intended, suggesting that my initial feeling was to sing it softly too. "When I sing it like that (loudly) it feels more like a lullaby" that's interesting how do you mean? "Well like not to a baby but like round a campfire" so do you mean addressing a wider audience? 'yes, I suppose so'.

Pitch matching perfect both times

SP7 Lesson 1 Italia Conti mainly ensemble. sang extensively as a treble but hasn't had any help since. 'I used to sing with the girls in ensembles but then my voice changed, and I knew I was supposed to sing with the lads but ... I couldn't find... how....' He didn't get any help with voice change 'I just stopped singing for a year' Has had changed voice for a couple of years voice change 15/16. No probs pitch matching to a piano. Was able to sing at low range matching my pitch and an octave lower when I was in high, so his voice is in a settled state. This guy is a hip hop dancer so I gave him 'stepping out' he loved this, and I suggested that it would be great to choreograph this in his own style (he suggested popping and blocking).

Lesson 2: SP7 is 18 "I don't really have any negative feelings. There were just more girls. We all got to do our bit. I sang Proud of your boy you know high like this and then next week it would be like this". So, there wasn't much variety? "No not really" but I suppose you were able to work on a song that you were used to, even if your voice was constantly changing, maybe that gave you confidence? "Yeah definitely". Three words "interesting challenging fun".

Pitch match test repeated with same result as before. He doesn't have a problem.

"I've been given this new song, but I don't really get it yet". 'Count your blessings' he is a hip hop dancer and had been given a piano backing track and the sheet music, but I didn't feel that this would make the song relatable. From a musician's point of view, he had everything he needed to learn the song, but I thought he would benefit from hearing which syllable

landed on which beat and a more rhythmic approach might help him. We spoke the text in free rhythm to get to know it. 'Ah that's really nice it's like a poem'. I think he had got so flustered worrying about the piece as a whole that he hadn't thought to break it down. Next, we spoke it rhythmically to a clicked beat, so it was like a rap and not like 'wallpaper music' my suggestion but this made him really laugh 'yeah that's it' he made swirly movements with his hands as he laughed. He found this much easier, and I explained how music notation worked so that he had a visual element to help. He was able to sing back sections of the song in tune and had learnt the song by the end of the session.

Pitch match good both times

SP4 Lesson 1 He has had one session of group singing a week over two years. "I'm a bit nervous, I'm not a singer" Has had three one-to-one lessons, towards audition where he sang "Beautiful city". Could pitch match to a piano. Could pitch match to me phenomena occurred when I sang a higher note which was to the middle of his range and further away from speech fundamental. He couldn't find the middle octave.

SP4 Lesson 2 He is 18

Ask when voice change was roughly

'Late! It broke when I was about 14, 15 I used to have this really high voice and I was small, then I just had this low voice'. Did you grow really fast about that time? 'Yes, I'm 6'4" and I'm still growing! I went home over the holiday, and I measured myself and I've gone up half an inch! So, I'm 6' 4" and a half now!'

How do these boys find the group lessons that they had before?

"The lesson was called singing for dancers. (Rolls eyes) We sang in a group then we would learn about stuff like twang (pulls a face) it didn't interest me much at the time but the other day when they were telling us about it in class, I thought Oh I remember this! (Smiles) so I suppose something must have gone in."

Do they think that the girls were favoured?

"Maybe, but I could have been me just not putting myself out there, and some weeks I just wanted to sit and give feedback".

How much help did they get with voice change in the school group sessions? no

When listening to a vocalist who do you tend to listen to the most (male or female)

Do you think differently about female singers?

"I love music! I listen to stuff all the time".

Can they give three words to describe how they feel about singing

Explorative is that a word? challenging exiting for the future

Did singing in tune get worse at any point over the last few years? Not know

Pitch matching test repeated: All piano notes in tune sang back my A4 in tune couldn't sing an octave below my C5

We worked on "Count your blessings" from White Christmas 'it's quite Christmassy"

"it's hard, hard to do without the music" He meant that when there is no guide vocal it is more difficult and also "a cappella", He had been trying to sing to a backing track.

"It's ok when we are all the same coz, we're all embarrassed but when there is a confident singer it's like you know (smiles shuffles raises eyebrows)"

"It's like I have two voices you know what I mean? I can sing along to something and then I try to do it again and it just goes."

"I listen to drill like the boys where I come from, and I have it on in my car and there was this time when my car went wrong and I didn't know coz I couldn't hear it over the music. And I turned it down and I thought oh no that doesn't sound right but I never knew! (Laughs)

Pitch matching the same

SP3 Lesson 1 He is 18 never had a one to one has done dance GCSE, 2 years since voice change. Sang the streets of Dublin for audition.

Pitch match test 'I usually sing notes too low' (so overcompensated today and sang higher than me. Finds it easier to pitch match to a male voice than a piano. Has had some negative experience around singing but says he is over it but blushed, so is he? His voice changed after GCSEs. C3, E3, G3 accurate after a hesitation. My A4 he sung a C4 my C5 didn't attempt.

SP3 Lesson 2 Ask when voice change was "roughly round GCSEs" (2 years)

How do these boys find the group lessons that they had before?

"Groups were fine you just belt out a note and it gets lost, so it doesn't matter."

Do they think that the girls were favoured?

"If you were good you were favoured. The girls could sing so they got the solos. Boys sound awful."

What all boys? You don't like the sound of male voices?

"No, it's just that boys are rubbish well all the ones I've heard they can't really sing."

"My voice changed over lock down. I had a few one-to-one lessons online. I didn't mind being online."

When listening to a vocalist who do you tend to listen to the most, male or female?

"Girls voices sound nicer. **men singing sound worse**."

So, you don't like men singing ballads?

(Screwed face up) **ugh no it just sounds... wrong** I like watching girls dance too it's just ...different. When I watch a boy, I think I can do that, or **I should be doing that**

So, you compare and is that why you don't like listening to men singing?

'Erm, I don't know really, yeah maybe'

How much help did they get with voice change in the school/college group sessions his voice changed during lockdown so no, he was at home.

Did it feel weird not seeing anyone and then emerging as a different person with your new voice?

"It felt good I like it" (smiles moves about) (voice changing during lock down and how he felt afterwards)

Can they give three words to describe how they feel about singing

Social I make beats with my friends challenging I can't wait to go, and do it I want to attack it nerve wracking

Did singing in tune get worse at any point over the last few years? Didn't know

Do you listen to music much? yes

We worked on 'Count your blessings' **"I find it hard to pitch"**

Initially he managed to pitch individual notes to the piano C3 E3 G3 look of bafflement when I sang A4 (danced around looking embarrassed C5 not attempted)" **there you see! I can't..oh I don't know** when I reminded him that this was the point of my study, he was surprised that this was perhaps more widespread phenomenon. "I'm ok when I'm with my friends and you know we are making beats, but I feel that when I'm, you know, in a **professional environment its hard like in auditions**." Sang notes that were an octave lower than me when I sang a

starting note. So, when he knew it was a pitch matching task, he was more accurate but when there was a greater level of complexity, when we worked on a song, he became frustrated. "When I'm in a group you know you can just sing a note, and no one can hear you so it doesn't matter". (Winces a lot when attempting notes) that was better how did you find that? (Wince) "well if you say so." Very self-critical never stops moving

pitch matching worse second time

SP2 Lesson 1 originally a commercial dancer but the ballet teacher says he has amazing turn out and he did extremely well in a jazz dance class. He was very excited about this. He has had private lessons for three years. Says that he doesn't have much confidence with singing. Sang 'All that's known' from 'Spring awakening' for audition. He had chosen 'Be careful it's my heart' sensitive and responsive singing and beautiful voice. Pitch match test to piano all good, to my A4 he was fine some hesitation over C5 inaccurate.

SP2 Lesson 2

Further questions He is 18

Ask when voice change was roughly about 15

How do they find group lessons that they had before? "Yeah, it was good if I was doing it wrong no one could hear." "There were lots of girls"

Do you see yourself as a non-singer? "Yeah, when I was coming back in a cab the driver asked me what I did and I said was doing performing arts and he said oh wow! So, are you a triple threat then? And I said, 'Well I'm a really good dancer and I can act ...' and he said ...'oh ok'" "All my friends where the really strong singers and I thought I can't do that so I'll just watch them and I'll do the dancing. My friend C got the lead in fame, and I was Tyrone, well they changed the name coz (shrug) obviously. And I did all the lifts, and she did the singing. "There was this boy who was a really strong singer, and he was really confident, and he went out and his voice did oh my god! this massive crack and we were like oh no oh god! and he came off and he was like (tragic face) so you know... it's hard."

"When I'm on my own I sing all the time. I sing along to Whitney"

What, at pitch? "Oh yeah of course!"

So up in your falsetto? "Yeah, well sometimes I sing it lower you know... depends how I feel."

"I will sing whatever song". Comparison to other people and high standards. He compares himself to other people negatively I should be able to that so why can't I do that.

Do they think that the girls were favoured?

"All my friends were really strong singers, so I thought you know "(shrug)

How much help did they get with voice change in the school group sessions

"No not really"

He is full of admiration for his female peers.

When listening to a vocalist who do you tend to listen to the most male or female?

"Ooh female every time! I'll listen to Bruno Mars some of his stuff is Ok, but you know the more(funky stuff?) yeah!"

Do you think differently about female singers

Can they give three words to describe how they feel about singing

Scary unstable enjoyable

We worked on "Be careful it's my heart"

C3 on piano 100% E3 slightly flat G3 ok after thinking about it, he was concentrating hard. I sang A4 and his attempt was nowhere near, same with C5. Two bad attempts. He is unsure of his pitching and doesn't identify as a singer. Lovely voice loads of potential. Was unsure of the big intervals and I had to walk him up the scale. Looked confused when I sang his source note at pitch.

'When I was singing with the girls it felt out of tune.' Reacting to the difference in timbre and the octave interval between him and them.

Pitch matching worse second time

SP8 Lesson 1 Turned up ten minutes early for his lesson 'yes, sorry, I'm just really nervous. I suffer from anxiety, and I always cry in singing lessons' Is 20 has had a few lessons over lock down online. Loved ensemble singing and really came alive when he talked about this. 'I suppose I enjoyed it because I sounded ok when I was singing in a group as everyone else was so good and I couldn't hear myself' 6-8 privates lessons prior to audition. He said that self-perception is poor suffers with anxiety and is tearful in lessons. Body language was very closed, with folded arms and a stoop. Smiled in the lesson and opened up. Was animated when he talked about singing in an ensemble. Pitched matched repeatedly to piano with accuracy, pitch matching to my voice, he sang an octave too low (A4). Found it tricky singing an octave lower than me when I sang C5 (accurate after some hesitation). Audition piece 'in summer' from Frozen as 'I could just talk my way through it'. He chose 'They say it's wonderful' CT dominant not much muscular engagement but responded well to technical advice and became very smiley. He said that he has listened to recordings of himself and hates the way he sounds. We talked about how acoustics affect this. He said that his girlfriend has been complimentary about his voice, but he doesn't believe her.

SP8 Lesson 2

He is 20

Ask when voice change was roughly "17 it changed overnight"

So, prior to this you didn't notice your voice dropping?

"I don't think I noticed. I wasn't shocked as it happened the same way to my dad. I felt good to have a deeper voice finally." SP8 is tall.

His father had spoken to him about voice change to prepare him emotionally.

How do these boys find the group lessons that they had before?

"First we had group lessons then when we went into lockdown, we had a few privates online"

Do they think that the girls were favoured

"Yes, but only because they were better singers. I haven't met a girl who didn't have a nice voice. Boys sound rubbish."

How much help did they get with voice change in the school group sessions

N/a

When listening to a vocalist who do you tend to listen to the most (male or female)

"I have a wide array of music. I love music! I spent £300 on headphones recently. I suppose I listen to male vocalists. I've got lists on Spotify. I listen to 'Raise a little hell' (Bonny and Clyde) and the big note at the end, I want to be able to sing that! I listen to usher mid 2000s r and b, metal, I like drum and bass, rap, old school and grime, I've got over 2000 songs I have liked on Spotify. Bruno mars for pleasure and James Blake their voices are smooth. The only thing I don't like is country".

But you like Bonny and Clyde?

(Grins) "yeah fair point"

Do you think differently about female singers?

He got so wrapped up in describing all the sorts of music he listens to that the question got side-lined however, most of the music he talked about was male led.

Can they give three words to describe how they feel about singing

Terrifying anxiety enduring beautiful

"When I have to sing properly, I get in my own head I'll forget the words, my voice will go back I can't move my voice forward." (Gesticulates, frustrated)

Did singing in tune get worse at any point over the last few years?

"It's more Consistent now. It has got better"

C3 perfect the other two notes too sharp, I sang A4, and this was flat twice we talked about how maybe anxiety was pushing the note sharp and he could hear the notes were out of tune and agreed that anxiety could be a factor. He was maybe overcompensating for the two sharp notes and then sang flat?

He sang the whole song in tune every time with not much volume but a pleasing tone. I got him to do a relevé and take his arms to fifth on the 'wonderful' each time, which helped with the energy level of the song. He was a good sport and completely engaged with the process he was smiley and relaxed by the end I think the physical movement helped him to stop overthinking his voice. He is very loquacious particularly if you mention music which is clearly his biggest passion. During both lessons he has mentioned his girlfriend and what she thinks, so clearly her opinion matters. Physically there is a marked difference from the last time I saw him. His body language is open and he makes eye contact and smiles a lot.

Pitching worse the second time

SP5 Lesson 1 so far sounds CT dominant in speech but looks like a baritone. He is soft spoken, gentle guy. Said he was bullied a bit at school 'they said I was a girl' No negative feelings but reports that his voice tires quickly in singing and he is very keen to find out why. No difficulties pitch matching to a piano. No pitch matching issues with my voice He has had 10 one to one's. Audition song 'Impossible Year' by panic at the disco. I explained about TA and CTs and what you should feel in mix. He chose 'All by myself' He made one slip in his Irving Berlin and ended up an octave too low and sang a whole phrase comfortably at that pitch without realising. Speech voice after singing much lower. We need to work to get his support sorted out.

SP5 Lesson 2

He is 18

Ask when voice change was roughly? '15 16 it was gradual. It didn't affect my confidence. I had a bigger range, so it had a positive effect'

How do these boys find the group lessons that they had before?

"We sang church songs, and went up down scales"

Do they think that the girls were favoured

"Definitely the girls were favoured!"

We sang Church songs and went up and down the scales they were favoured yes.

How much help did they get with voice change in the school group sessions?

My college was a place for commercial dance, and they gave us singing but.... (shrug)

It was an add on? Not considered important?

"Yes"

When listening to a vocalist who do you tend to listen to the most (male or female)

"I listen to women more. I was mainly spending time with my friends so it's nice a female voice".

I spoke about how I had a hypothesis that males might listen to female voices more. Female voices were listened to for pleasure but male voices analytically.

"Yes, it's exactly like that!"

Do you think differently about female singers (see above)

Perfect pitch matching again both to me and the piano with no hesitation.

Can they give three words to describe how they feel about singing

Trauma for the younger me, firey, Freeing

Did singing in tune get worse at any point over the last few years?

Do you listen to music much?

"I used to cry when I sang. My leg used to shake"

Was this performance anxiety?

"Yes, partly but I have been exploring whether I have ADHD or autism I'm still not sure, but it might have something do with it"

"I'm not sure when my voice changed, it stayed high, and it was only when I was doing drama and being different characters that my other voice came out"

How did that feel?

"It felt good"

Were the girls favoured in group lessons?

"Oh, definitely they got all the solos."

Did you try out for a solo?

"Yes, but my voice would crack, and I couldn't do it."

SP5 said that his voice stayed high, as an unchanged treble, but during drama exercises he suddenly heard and felt his adult voice 'come out'.

In the last session, he talked about the negative things in his past and how people at school used to call him 'a girl'. There is nothing remotely feminine in his appearance. This now makes more sense if he was a puberphone which appears to be what he is describing. Could there be a link between autism and puberphonia? (I have now found lots of evidence of link, see refs)

I played him a recording of Caiaphas from Jesus Christ superstar and he was shocked. Then I played him done Willard White singing "Old, man river"

"I have never heard a man sing like that. I thought you had to have a high voice in music theatre" he appeared excited and intrigued when I told him about the rarity of true basses. He was able to sing 'all by myself' at pitch but it was a not very loud and it sounded constricted in places. When we worked on the words, and I asked him to speak whilst I played the tune, he ended up singing the whole song down the octave, so he actually has an enormous range. There is a roughness like dryness or mucous in his sound, but I think this will clear up, this occurred even when we were in a comfortable range. We transposed the song down a fifth and it was much more comfortable. 'This is the best singing lesson I have ever had' he was much more outgoing this time.

I had a third lesson with SP5 to check if he was OK. He had learnt his song and it sat comfortably in his voice now that it was a fifth lower. He reported less vocal tiring, and we even did some acting through song. Initially, he was taking "All by myself" slowly and remarked that all the versions he had watched online were up-beat and he didn't know why. We talked about how it could be sung coyly which would match the syncopation and tempo. Once I had explained, he understood and sang a beautifully acted rendition.

Pitching perfect both times

SP1 Lesson 1 hasn't had any one-to-one voice lessons but chose "tonight at eight" from "She loves me" and could name the artist who sang the role. "I chose it because I could talk my way through it."

He didn't start singing until he started GCSE dance. "I had a bad experience at one audition. The pianist couldn't play my song and stopped playing and they asked me for another song, but I didn't have one, so I had to sing Happy Birthday on my own, it was awful"

SP1 is very musical no problem or hesitation pitch match to a piano 'I'm used to it; I listen to music all the time' sang an octave below my note in low range (A4) but sang in his correct octave when I sang high (C5). He chose "They say it's wonderful" as he "loves" this song and has five different versions on his phone. "I love cover versions, often they are better than the original. Did you know that 'close to you', you know sung by the Carpenters, it's a cover! I heard the original Bert Bacharach, and it wasn't as good" Super bright music nerd! He said he has a big collection of vinyl records.

(SP1)

Further questions lesson 2

Must find out age now! "18/ 19 next week"

Ask when voice change was roughly 15

How do these boys find the group lessons that they had before

No groups did GCSE dance. He had gone to boys' school where dance had been offered but had been taught ballet by his sister.

How much help did they get with voice change in the school group sessions n/a

When listening to a vocalist who do you tend to listen to the most (male or female)

"Male, 60/40, well like if I want to listen to rock there aren't many female led bands. But when I'm in a country mood I will listen to females. They seem more suited to the style. I'm more drawn to that than with a male country singer."

Do you think differently about female singers

"When I can't get to sleep there is song I always put on, it's by a female singer."

Can they give three words to describe how they feel about singing

Nervous I'm trying to think of another word

I'm willing to throw myself into it but I'm nervous. Confident and excited. Part of me is excited to just learn.

Did singing in tune get worse at any point over the last few years?

"I tell you what I feel like I'm off now! I'm struggling to singing in tune in a group lesson. The boys in my group, there are two of them and they have really high voices."

"Are there girls in the same group?"

"Yes, they have really high like operetta voices." (He actually said that)

So, when they are singing an octave above you it might make you feel like you are out of tune.

"Yeah, I think I'm singing the right note but it sounds wrong. In the warmup they all keep going up and I get so far and I just sing the same thing (repeat at the same pitch)."

It should have been explained that you sing as high as you are comfortable and then drop out if it's too high. It sounds like he is singing in the tenor/soprano section when he is a baritone.

"I feel like the more I find out about what's involved the worse I get." (Overthinking)

When asked how his other one-to-one lessons are going '

"The other teacher said I need to sing less like Kermit on the top notes".

The soft palate is not elevated enough, and he is constricting the muscles around the larynx to push the note higher.

"It seems like I'm singing the right note, but the vowel makes it seem like I'm off."

We talked about vowel modification after this comment.

All piano (C3, E3, G3) in tune. Pitching to voice (A4) sang an octave down, as before. When he is singing a note that is slightly higher than he is comfortable singing, he sang a third too low. So, he sings a harmony note which is perfectly in tune, but doesn't realise he is doing this. **Pitching worse second time**

Summary of coding

a lot of singing experience. 'I sing really high, 'I surprised myself there'

I think I've absolutely smashed ..you know I think I can do this' had lots of leading roles that's why I can sing well now'. sang extensively as a treble I used to have this really high voice I'm 6'4" and I'm still growing! half an inch! So I'm 6' 4" and a half now'

Oh, I remember this! (Smiles) so I suppose something must have gone in. I sounded ok

'It felt good I like it' (smiles moves about) (voice changing during lock down and how he felt afterwards) it felt good. had a bigger range so it had a positive effect' No pitch matching issues with my voice It's more Consistent now I felt good to have a deeper voice finally.

I sounded ok I'm a really good dancer and I can act

I did all the lifts

'It seems like I'm singing the right note, but the vowel makes it seem like I'm off.' The other teacher said I need to sing less like Kermit on the top notes'

Yeah, I think I'm singing the right note but it sounds wrong

I tell you what I feel like I'm off now I'm struggling to sing in tune in a group lesson I couldn't do it. they were better singers

Self-perception is poor suffers that he has listened to recordings of himself and hates the way he sounds. but he doesn't believe her. He is unsure of his pitching and doesn't identify

as a singer he said ...oh ok himself to other people negatively I should be able to that so why can't I do that.

I thought you know (shrug) well if you say so. Very self-critical 'I usually sing notes too low' hard to do without the music 'I'm not a singer' I won't make it through the singing round there you see I can't oh I don't know'

but when there is a confident, but I don't really get it yet. 'I'm sort of the comedy side kick I don't think I can sing well enough', 'I can't really sing low try to do it again and it just goes.

It wasn't enjoyable it was something I had to do to keep the teachers happy.

'I didn't enjoy singing' I think the bloke had a day job ... but he didn't care...he just took the money'. .'I had a bad experience at one audition. The pianist couldn't play my song and stopped playing and they asked me for another song but I didn't have one, so I had to sing Happy Birthday on my own, it was awful' I thought you had to have a high voice in music theatre yes but my voice would crack and My college was a place for commercial dance and they gave us singing but.... (shrug)

It was an add on? Not considered important?

Yes 'they said I was a girl' Boys sound rubbish.

Really? Well most of the ones I've heard. They can't really sing. in a professional environment its hard like in auditions

Boys sound awful. boys are rubbish well all the ones I've heard they can't really sing.

men singing sound worse.ugh no it just sounds... wrong' I should be doing that'

Has had some negative experience around singing but says he is over it but blushed so has he? had to sing a lot of girls songs'

I won't make it through the singing round.' I feel like the more I find out about what's involved the worse I get I used to cry when I sang. My leg used to shake

I won't make it through the singing round (researcher "was this performance anxiety?)

yes partly but I have been exploring whether I have ADHD or autism I'm still not sure but it might have something do with it' I get in my own head I'll forget the words my voice will go back I can't move my voice forward. yes, sorry, I'm just really nervous. I suffer from anxiety and I always cry in singing lessons' anxiety tearful in lessons. Body language was very closed, with folded arms and a stoop. oh my god biggest crack oh no oh god! and he came off and he was like (tragic face) so you know... it's hard.

I have done some prep for this lesson' they all keep going up and I get so far and I just sing the same thing (repeat at the same pitch). 'I chose it because I could talk my way through it' . I tried to use the cockney accent to help it didn't matter that my voice was breaking because it was sad' I chose it because I could talk my way through it' . when I was singing in a group as everyone else was so good and I couldn't hear myself 'I could just talk my way through it' if I was doing it wrong no one could hear. It's ok when we are all the same coz we're all embarrassed When I'm in a group you know you can just sing a note a and no one can hear you so it doesn't matter My teacher (group teacher) really helped I had a female teacher and she just said sing it lower every week (one to one lessons) but my group teacher said sing it out you know sing your top notes'.

'Yes! And that really helped keep my range

I'd like to be leading man but we were all trying to get into college... I want to get a job on a cruise ship. and the big note at the end, I want to be able to sing that!

I can't wait to go and do it I want to attack it . Part of me is excited to just learn. I should be doing that'

I'm not sure when my voice changed, it stayed high and it was only when I was doing drama and being different characters that my other voice came out

19 18 20 18

I don't think I noticed I wasn't shocked as it happened the same way to my dad

eleven it was a long time ago.

17 it changed overnight

voice for a couple of years voice change 15/16

15 15

intriguing freeing expressive. Nervous I'm trying to think of another word

I'm willing to throw myself into it but I'm nervous. Confident and excited. Part of me is excited to just learn Explorative is that a word? challenging exiting for the future interesting challenging fun.

Trauma for younger me, firey, Freeing

Terrifying anxiety enduring beautiful Social I make beats with my friends challenging I can't wait to go and do it I want to attack it nerve wracking

Experience

SP10 8 weeks of 45 mins groups of 15 mix gender Received no guidance in prior to auditioning.

SP6 has sung Billy Flynn never had a one to one lesson

SP9 Has had lots of leading roles show Pilate in Jesus Christ Super star, Seymour in little shop, Jesus in Godspell and Gavroche during voice change (aged 11) talks about group lessons with a male teacher and individual with a woman

SP7 Italia Conti mainly ensemble. sang extensively as a treble but hasn't had any help since. 'I used to sing with the girls in ensembles' He didn't get any help with voice change (Italia Conti) 'I just stopped singing for a year' Has had changed (Callum continued)

has had one session of group a week over two years talks about singing proud of your boy in a different key every week which must have been during a private

SP8 First we had group lessons then when we went into lockdown we had a few privates online 6-8 privates prior to audition

SP4 has had one session of group a week over two years

SP1 No groups or one to ones

SP2 He has had private lessons for three years and groups. Took a

SP3 has had a few one to one lessons online (or dance?) and group lessons once a week

SP5 We sang Church songs and went up and down the scales they were favoured yes.

SP1 no training at all

SP3, SP5, SP10, SP6, SP4

SP2, SP8, SP7, SP9 one to ones and groups

SP2 is still very uncertain and doesn't consider himself to be a singer despite having a lot of training (three years of one-to-one lessons and ensemble classes). He compares himself unfavourably to friends, most of whom he describes as "female" and "strong singers". He has high standards and is an accomplished and confident dancer, so negatively compares his expertise in other areas, to his developing skills as a singer "All my friends where the really strong singers and I thought I can't do that so I'll just watch them and I'll do the dancing".

SP3 has had some bad experience that he says he 'is over' but blushes and fidgets. He has lots of negative associations around singing particularly "boys" capability in this area . He is one of the students who requested extra help with his singing.

SP7 does not seem to be nervous and has developed coping strategies such as taking time out over voice change, but this must only have been in groups as he reported singing Proud of your boy in various keys so there are inconsistencies in his statement.

SP5 has not had any one-to-one lessons and yet is confident with his singing but is reporting issues with his voice such as vocal fatigue and lack of power. His speaking voice is CT (cite) dominant and his descriptions of his voice change, the bullying he reports "they called me a girl" and his self-diagnosed autism, incline the researcher to suspect that he is a recovering puberphone (cite). There have been studies that have linked autism with puberphonia (cite). SP5 is an emergent bass baritone and has been using constriction to manipulate his larynx. His assumption that you 'have to have a high voice' to work in music theatre, and lack of professional guidance have not served him well.

SP8 reported high levels of anxiety connected to singing "I usually cry in lessons" yet has a moderate level of tuition. He reports that the one-to-one lessons were online, and the researcher questions whether the delivery system of these lessons could have been a contributory factor to the anxiety levels. The participant said "I enjoyed it" when referring to the group sessions but thought that this was due to not being able to hear himself. The researcher ponders whether the group dynamic had subconscious positive effects on the participant (cite).

SP9 went through voice change at the age of 11 and has since had a number of leading roles in his previous college.

SP4 has had ensembles lessons for two years which he has not enjoyed "it was called singing for dancers... It's ok when we are all the same coz we're all embarrassed but when there is a confident singer it's like you know..." and reports varying degrees of pitching accuracy "it just goes".

Four of the most anxious participants were also the most aspirational (SP3, SP10, SP1, and SP8) all asked for extra help. The researcher wonders if the desire to achieve is coupled to a high level of self-criticism or perfectionism and anxiety (cite a study) (researcher) so you compare and is that why you don't like listening to men singing?

'erm I don't know really, yeah maybe" SP3

SP8 "I always cry in singing lessons...I suffer from anxiety" "The big note at the end, I want to be able to sing that" SP3 "I can't wait to go and do it. I want to attack it" "nerve wracking" SP1 "I'm willing to throw myself into it but I'm nervous" SP10 "when I leave I want to get a job on a cruise ship ..but I won't make it through the singing round.'

Pitch matching

SP6 Pitch perfectly to piano variety of notes. Could not pitch to me.

SP10 c3 e3 g3 spot on sang an octave lower when source note low but pitch matched an octave lower than me when I sang higher in my range.

Do you have any problems with pitch matching?

'Well sometimes I sing a song I think I've absolutely smashed but then I'm told I'm pitchy' when was the last time this happened 'Monday in a group session.'

SP9 Did your pitching get harder at any point? 'Well, when my voice was breaking yes I suppose.. it was a long time ago.' Were you able to pitch well before? 'I don't know really I think so' no problems pitching to me or the piano Pitch matched to piano accurately sang easily to my voice.

SP8 Pitched matched repeatedly to piano with accuracy pitch matched my voice at octave in low range. Found it tricky singing an octave lower than me. Did singing in tune get worse at any point over the last few years?

It's more Consistent now. It has got better

Do you listen to music much?

C3 perfect the other two notes too sharp, I sang A above and this was flat twice we talked about how maybe anxiety was pushing the note sharp and he could hear the notes were out of tune and agreed that anxiety could be a factor

He sang the whole song in tune every time

SP5 No difficulties pitch matching to a piano. No pitch matching issues with my voice Possibly high functioning in tuning due to autism?

SP1 Very musical no problem or hesitation pitch match to a piano 'I'm used to it, I listen to music all the time' sang an octave below my note in low range but sang in his correct octave when I sang high. Are there girls in the same group? Yes they have really high like operetta voices.

So, when they are singing an octave above you it might make you feel like you are out of tune.

Yeah I think I'm singing the right note but it sounds wrong. In the warm up they all keep going up and I get so far and I just sing the same thing (repeat at the same pitch). It should have been explained that you sing as high as you are comfortable and then drop out if it's too high. It sounds like he is singing in the tenor/soprano section when he is a baritone. I feel like the more I find out about what's involved the worse I get. (Overthinking)

The soft palate is not elevated enough and he is constricting the muscles around the larynx to push the note higher.

'It seems like I'm singing the right note but the vowel makes it seem like I'm off.'

We talked about vowel modification.

Piano in tune voice octave down .

When he is singing a note that is slightly higher than he is comfortable singing he sang a third too low twice but perfectly in tune. (I think he has a very good ear and has excellent pitch perception but errors may be occurring due to anxiety and lack of experience using his instrument -physical feedback).

SP7 No probs pitch matching to a piano. Was able to sing at low range matching my pitch and an octave lower when I was in high.

SP4 Could pitch match to a piano_ Could pitch match to me phenomena occurred when I sang a higher note which was to the middle of his range and further away from speech fundamental. He couldn't find the middle octave

SP2 C3 on piano 100% E3 slightly flat G3 ok after thinking about it I sang A4 above this nowhere near. Two bad attempts.

SP3. '[I usually sing notes too low](#)' (so overcompensated today and sang higher than me. finds it easier to pitch match to a male voice than a piano.

"I find it hard to pitch" SP3 continued

Initially he managed to pitch individual notes to the piano C3 E3 G3 look of bafflement when I sang A4 (danced around looking embarrassed) [there you see I can't oh I don't know](#)' when Reminded him that this was the point of my study, he was surprised that this was perhaps more widespread phenomenon.

I'm ok when I'm with my friends and (SP3 continued) you know we are making beats, but I feel that when I'm you know in a [professional environment its hard like in auditions](#). Sang notes that were an octave lower than me when I sang a starting note. So when he knew it was a pitch matching task he was more accurate but when there was a greater level of

complexity, when we worked on a song he became frustrated. When I'm in a group you know you can just sing a note a and no one can hear you so it doesn't matter.

Appendix 7

Approved Ethics Form

APPLICATION FOR ETHICAL APPROVAL

For research to result in benefit and minimise risk of harm, it must be conducted ethically. A researcher may not be covered by the University's insurance if ethical approval has not been obtained prior to commencement.

The University follows the OECD Frascati manual definition of **research activity**: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

Ethical approval is not required for routine audits, performance reviews, quality assurance studies, testing within normal educational requirements, and literary or artistic criticism.

Please read the notes for guidance before completing ALL sections of the form.

This form must be completed and approved prior to undertaking any research activity.
Please see Checklist for details of process for different categories of application.

Delete the Guidance Notes at the end of the form BEFORE submitting your application

SECTION A: About You (Principal Researcher)

1	Full Name:	Yvette Cummings			
2	Tick all boxes which apply:	Member of staff:	☐	Honorary research fellow:	☐
3	Undergraduate Student ☐	Taught Postgraduate Student	☒	Postgraduate Research Student	☐

4	Institute/Academic Discipline/Centre:	WAPPAR
5	Campus:	Carmarthen
6	E-mail address:	yvette3mc@googlemail.com
7	Contact Telephone Number:	01793790387
For students:		
8	Student Number:	2117960
9	Programme of Study:	MA in Professional Practice (Voice Pedagogy)
10	Director of Studies/Supervisor:	Debbie Winter/Louise Emanuel

SECTION B: Approval for Research Activity

1	Has the research activity received approval in principle? (please check the Guidance Notes as to the appropriate approval process for different levels of research by different categories of individual)	YES	☒	NO	☐
		Date			
2	If Yes, please indicate source of approval (and date where known): Approval in principle must be obtained from the relevant source prior to seeking ethical approval	Research Degrees Committee	☐		
3		Institute Research Committee	☐		
4		Other (write in) WAPPAR Ethics Board Representative	☒		

SECTION C: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines.	
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3		☐

SECTION D: External Collaborative Research Activity

1	Does the research activity involve collaborators outside of the University?	YES	☐	NO	☒
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2	If Yes, please provide the name of the external organisation and name and contact details for the main contact person and confirmation this person has consented to their personal data being shared.as part of this collaboration.					
3	Institution					
4	Contact person name					
5	Contact person e-mail address					
6	Has this individual consented to sharing their details on this form?	YES	☐	NO	☐	
7	Are you in receipt of a KESS scholarship?	YES	☐	NO	☐	
8	Is your research externally funded	YES	☐	NO	☐	
9	Are you specifically employed to undertake this research in either a paid or voluntary capacity?	Voluntary	YES	☐	NO	☐
10		Employed	YES	☐	NO	☐
11	Is the research being undertaken within an existing UWTSD Athrofa Professional Learning Partnership (APLP)	If YES then the permission question below does not need to be answered.	YES	☐	NO	☐
12	Permission to undertake the research has been provided by the partner organisation	(If YES attach copy) If NO the application cannot continue	YES	☐	NO	☐

Where research activity is carried out in collaboration with an external organisation

13	Does this organisation have its own ethics approval system?	YES	☐	NO	☐
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14	If Yes, please attach a copy of any final approval (or interim approval) from the organisation
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SECTION E: Details of Research Activity

1	Indicative title:	An investigation into pitch matching difficulties for post pubertal male singers of limited experience.		
2	Proposed start date:	19/09/22	Proposed end date:	05/01/23
3	Introduction to the Research (maximum 300 words) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • <i>Purpose of Research Activity</i> • <i>Proposed Research Question</i> • <i>Aims of Research Activity</i> • <i>Objectives of Research Activity</i> Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain • <i>What the research activity will add to the body of knowledge</i> • <i>How it addresses an area of importance.</i>			
4	<u>Background</u> Throughout my career as a singing teacher, I have found that boys with changed voices (post puberty) have difficulty pitch matching to either a keyboard instrument or a female voice teacher. I would like to develop a deeper understanding of the extent of the problem and develop strategies to deal with it.			

	. <u>Previous Research</u> Willis and Kenny (2008) carried out voice experiments to ascertain how pitch accuracy varied with the age of male singers pre and post puberty. They found that as the students got older their intonation became less accurate. Demorest and Clements (2007) investigated tuning issues with junior high school boys. Beavers and Olson (2021) carried a detailed study which identified the problem but did not discover its prevalence in 'music majors' at college level and stated that although timbral issues have been found to influence tuning, no definitive information exists only incongruent studies. Karpinski (2000) recommended that the gender of choral instructor should match the singers.
5	Research Question What is the prevalence, and impact, of pitch matching difficulties in post pubertal male singers with limited vocal experience?
6	Aims of Research Activity

	The aims of the research will therefore be: • to find the prevalence of this pitching problem in college age students within my practice • to investigate the impact of it on singing students • to discover the issues faced by other voice teachers brought on by this phenomenon. • To decide on the direction and scope future research projects into this matter should take
7	Objectives of Research Activity - To conduct a literature review on pitch matching building on a previous module - To evaluate the extent of the pitch matching problem within my own studio through the use of qualitative data collection - To evaluate the extent of the problem experienced by other voice teachers - To devise appropriate strategies (this box should expand as you type)
8	Proposed methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed.

9	My study will be qualitative, and my methods will involve, • keeping a reflective diary to record instances of pitching problems amongst my male students. • an online focus group formed of other singing teachers. • comparison with the findings of choral director who has recorded similar experiences to mine in an online blog. Possible email correspondence with the author of the online blog to gain clarification and further insights. <u>Reflective Diary</u> I will keep a reflective diary to record my experience of pitching problems amongst male students. I will use a reflective model to enable structure and consistency during the reflective process. <u>Focus Group</u> The focus group will be consist of experienced singing teachers and choral directors and will take place online. Participants will be informed that the aim of the focus group, with reference to my research. Relevance of the research to individual practices will be ascertained prior to invitations being issued. I will devise questions to initiate discussion which will be piloted amongst colleagues before the focus group meets. A transcription of the meeting will be emailed to the group members to be verified and agreed. <u>Interview</u>
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I may use a semi structured interview with an online blogger who has gained expertise within the practice field. I may evaluate his blog as a form of document analysis with a brief follow-up interview if required.

Observation

I will explain my research to students at the start of lessons, and ask their permission to record my observations in a reflective diary. I will offer to show them observations concerning them solely. If verbal consent is given, then the lesson will proceed as normal. I will record only the date and time of the lesson to cross reference with my work schedule. I have a rolling rota of over 300 students that frequently change at short notice. I will use a structured observation template to enable consistency.

Analysis

Views and comments from the focus group will be noted down on my laptop, and compared with reflections from my research diary, and with the afore mentioned blog for triangulation.

Recurrent issues and experiences from the synthesised data, will be graded by frequency of occurrence and intensity. Conclusions as to the prevalence and perceived problem of pitch matching difficulties will then be drawn.

Summarised data will form a hypothesis, action plan, and the framework for continued studies.

Literature Review

A Literature review will also examine issues of pitch matching in detail. The results will then be compared and contrasted.

(this box should expand as you type)

10	Location of research activity Identify all locations where research activity will take place.
11	The focus group will take place online and singing lessons used in observations will take place at the college at which I teach. (this box should expand as you type)
12	Research activity outside of the UK If research activity will take place overseas, you are responsible for ensuring that local ethical considerations are complied with and that the relevant permissions are sought. Specify any local guidelines (e.g. from local professional associations/learned societies/universities) that exist and whether these involve any ethical stipulations beyond those usual in the UK (provide details of any licenses or permissions required). Also specify whether there are any specific ethical issues raised by the local context in which the research activity is taking place, for example, particular cultural and/or legal sensitivities or vulnerabilities of participants.
13	 (this box should expand as you type)

14	Use of documentation not in the public domain: Are any documents <u>NOT</u> publicly available?	NO	☒
		YES	☐
15	If Yes, please provide details here of how you will gain access to specific documentation that is not in the public domain and that this is in accordance with prevailing data protection law of the country in question and England and Wales.		

	(this box should expand as you type)
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SECTION F: Scope of Research Activity

1	Will the research activity include:	YES	NO
2	Use of a questionnaire or similar research instrument?	☐	☒
3	Use of interviews?	☐	☒
4	Use of diaries?	☒	☐
5	Participant observation with their knowledge?	☒	☐
6	Participant observation without their knowledge?	☐	☒
7	Use of video or audio recording?	☐	☒
8	Access to personal or confidential information without the participants' specific consent?	☐	☒
9	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
10	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
11	Investigation of participants involved in illegal activities?	☐	☒
12	Use of procedures that involve deception?	☐	☒
13	Administration of any substance, agent or placebo?	☐	☒
14	Working with live vertebrate animals?	☐	☒
15	Other primary data collection methods, please explain in this box For example, 'focus groups'. Please indicate the type of data collection method(s) in this box and tick the accompany box.	☒	☐

16	Details of any other primary data collection method: An online focus group of singing teachers will be used to investigate the scale of pitch matching difficulties. A reflective diary will be used to record my experiences as a teacher and comments from students arising during lessons. Analysis of an online blog, and possible correspondence with its author, who has recorded similar experiences to my own. (this box should expand as you type)		
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If NO to every question, then the research activity is (ethically) low risk and **may** be exempt from **some** of the following sections (please refer to Guidance Notes).

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION G: Intended Participants

1	Who are the intended participants:	YES	NO
2	Students or staff at the University?	☐	☒
3	Adults (over the age of 18 and competent to give consent)?	☒	☐
4	Vulnerable adults?	☐	☒
5	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
6	Prisoners?	☐	☒

7	Young offenders?	☐	☒
8	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
9	People engaged in illegal activities?	☐	☒
10	Others (please identify specifically any group who may be unable to give consent) please indicate here and tick the appropriate box.	☐	☒
11	Other – please indicate here:		

12	Participant numbers and source Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
13	How many participants are expected?	The focus group will be made up of roughly ten participants. Observations will be of twenty participants approximately. <i>(this box should expand as you type)</i>
14	Who will the participants be?	The focus group will be made up of singing teachers whose names will be drawn from a list of members of a professional body, of which I am a member. Permission to contact members will initially be sought from the acting chair-person of the organisation. Students will be scheduled for lessons by the head of singing at the college at which I teach. <i>(this box should expand as you type)</i>

15	How will you identify the participants?	Singing teachers with at least ten years of working with male students with changed voices will be invited to the focus group. Students who have a changed voice because of puberty will be asked to participate, provided they are over 18. Students undergoing hormone therapy for gender reassignment will not be asked to participate as their experiences will be beyond the scope of my current study. <i>(this box should expand as you type)</i>
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16	Information for participants:	YES	NO	N/A
17	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☒	☐	☐
18	Will you tell participants that their participation is voluntary?	☒	☐	☐
19	Will you obtain written consent for participation?	☒	☐	☐
20	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☒	☐	☐
21	If the research is observational, will you ask participants for their consent to being observed?	☒	☐	☐
22	Will you tell participants that they may withdraw from the research at any time and for any reason?	☒	☐	☐
23	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☒	☐	☐
24	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☒	☐	☐
25	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☒	☐	☐
26	If NO to any of above questions, please give an explanation			
27	<i>(this box should expand as you type)</i>			

28	Information for participants:	YES	NO	N/A
29	Will participants be paid?	☐	☒	☐
30	Is specialist electrical or other equipment to be used with participants?	☐	☒	☐
31	Are there any financial or other interests to the investigator or University arising from this study?	☐	☒	☐

32	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☒	☐
33	If YES to any question, please provide full details			
34	<i>(this box should expand as you type)</i>			

SECTION H: Anticipated Risks

1	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them. If you have completed a full risk assessment (for example as required by a laboratory, or external research collaborator) you may append that to this form.		
2	Full risk assessment completed and appended?	Yes	☐
		No	☒
3	Risks to participants For example: emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information		
4	Risk to Participant: The anonymity of the focus group members may be compromised if the participants are known to each other professionally.	<i>How will you mitigate the Risk to Participant</i> The invitation email will state that all participants have the right to anonymity and participation in	

	Comments and opinions voiced in the focus group may be inflammatory or reflect negatively on third parties. Students and third parties may be inadvertently named. Observations on lessons made by the researcher could be attributable to particular students if the diary is read by a third party. Contact details of the students may be at risk of discovery.	the focus group meeting implies agreement to all terms and conditions stated therein. All comments and opinions voiced in the focus group must be treated in the strictest confidence. Strict guidelines will be given before the focus group begins and I will also devise a strategy for facilitating the group. Anonymity should be extended to third parties and no student or fellow practitioner should be named during the meeting. The reflective diary will be stored on my personal device which is password and fingerprint protected. The students schedules will be sufficiently randomised so that even with access to the college register it will be impossible to ascertain whether a student is participating in the study, and no names or identifiers will be recorded in the diary. I will not record the names of the student participants.
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	Students may become frustrated or upset during a lesson. Participants may feel obligated to participate in the research due to a power disparity between student and teacher.	Any emotional distress brought about by failed attempts to pitch match in a lesson will be dealt with sympathetically and normal college protocols will be followed regarding student well-fare and safeguarding. I will explain the concept of informed consent to the potential participants and will in no way obligate them to participate. <i>(this box should expand as you type)</i>
5	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	<i>(this box should expand as you type)</i>	
6	Risks to investigator For example: personal safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to Investigator:	<i>How will you mitigate the Risk to Investigator:</i> The members of the focus group have a shared experience with the researcher as fellow

	The investigator may be subjected to verbal or emotional abuse during the online focus group. The researcher may not find sufficient volunteers. The members of the focus group may fail to attend the meeting. There may be of false accusation and threats to the researcher's safety during the lessons. <i>(this box should expand as you type)</i>	practitioners and are unlikely to use threatening or hurtful language. The study could be of potential benefit to the group members so a negative response is unlikely. The investigator has a sufficiently large target group from which to draw. Meetings can be rescheduled if members fail to attend. College protocols exist to protect its staff and the researcher has public liability insurance and legal cover through the ISM.
7	University/institutional risks For example: adverse publicity, financial loss, data protection	
	Risk to University: The reputation of the University may be jeopardised by the behaviour of the researcher.	<i>How will you mitigate the Risk to University:</i> The investigator will endeavour to carry out all research in a professional manner and all dealings with others will be polite and efficient.

	Negative publicity could damage the reputation of the university. The university might incur costs as a result of the research. <i>(this box should expand as you type)</i>	The investigator will not seek to publicise their work without contacting the university for permission and the research topic is not contentious. The anticipated cost of the research will be minimal and the researcher shall be responsible for any expenditure. Expected costs will be the normal expenses of the researcher during an average working day. No special equipment will be needed and no additional work space will be required. <i>(this box should expand as you type)</i>
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8	Disclosure and Barring Service			
9	If the research activity involves children or vulnerable adults, a Disclosure and Barring Service (DBS) certificate must be obtained before any contact with such participants.	YES	NO	N/A
10	Does your research require you to hold a current DBS Certificate?	☒	☐	☐

SECTION I: Feedback, Consent and Confidentiality

1	Feedback
	What de-briefing and feedback will be provided to participants, how will this be done and when?
	If participants request feedback they may contact me via my college email address but no feedback will be volunteered.

	<i>(this box should expand as you type)</i>
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation. An invitation email will be sent to potential participants of the online focus group, the contents of which will make clear that participation in the online meeting grants consent. The rules relating to the right to withdrawal will be clearly communicated. The students will have the research explained to them and asked whether they would like to participate. The researcher will explain that they do not have to oblige and that if they initially agree to have observations written about them, they may withdraw their consent at any time and comments will be deleted from the diary. An email will be sent to the website of the blogger to ask for consent. <i>(this box should expand as you type)</i>
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case. The participants of the focus group will be emailed an invitation to participate and a list of names and email addresses will be stored on the researcher's personal device. At the conclusion of the research the list will be deleted. The names and contact details of students will not be stored on any device. If the blogger agrees to participate but wishes to remain anonymous their wishes will be respected. <i>(this box should expand as you type)</i>

SECTION J: Data Protection and Storage

In completing this section refer to the University's Research Data Management Policy and the extensive resources on the University's Research Data Management web pages (<http://uwtsd.ac.uk/library/research-data-management/>).

1	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
	<i>"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person.</i>	X ☐	☐
2	If YES, provide a description of the data and explain why this data needs to be collected:		
	Emails of the online focus group will be needed in order to invite them to participate in the study. Details of the online blog maybe included in the study if the author of the blog consents. <i>(this box should expand as you type)</i>		
3	Does it involve special category data (as defined by the GDPR)?	YES	NO
	<i>"Special category data" means sensitive personal data consisting of information as to the data subjects' –</i> <i>(a) racial or ethnic origin,</i> <i>(b) political opinions,</i> <i>(c) religious beliefs or other beliefs of a similar nature,</i> <i>(d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992),</i> <i>(e) physical or mental health or condition,</i> <i>(f) sexual life,</i> <i>(g) genetics,</i> <i>(h) biometric data (as used for ID purposes),</i>	☐	☒
4	If YES, provide a description of the special category data and explain why this data needs to be collected:		

	<i>(this box should expand as you type)</i>
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5	Will the research activity involve storing personal data and/or special category data on one of the following:	YES	NO
6	Manual files (i.e. in paper form)?	☐	☒
7	University computers?	☒	☐
8	Private company computers?	☐	☒
9	Home or other personal computers?	☒	☐
10	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
11	"Cloud" storage or websites?	☒	☐
12	Other – specify:	☐	☒
13	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of password protection, encryption, anonymisation and pseudonymisation:		
	All data will be kept in password protected cloud storage on the company's Office 365 system which will not be shared. Audio/visual data will be transcribed and would be shown to participants to check accuracy of reporting. Any USB sticks used to store or transfer data will be password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. <i>(this box should expand as you type)</i>		

14	All Data Storage		
15	Will the research activity involve any of the following activities:	YES	NO
16	Electronic transfer of data in any form?	☒	☐
17	Sharing of data with others at the University?	☒	☐
18	Sharing of data with other organisations?	☐	☒
19	Export of data outside the European Union or importing of data from outside the UK?	☐	☒
20	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☒	☐
21	Publication of data that might allow identification of individuals?	☐	☒
22	Use of data management system?	☒	☐
23	Data archiving?	☐	☒
24	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and DPA (and/or any international equivalent):		
	All data will be encrypted and kept in password protected cloud storage on the Company's Office 365 system which will not be shared. Any USB sticks used to store or transfer data will be password protected. All data transfers will be encrypted and password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. The data will be stored until the completion of the project and then deleted. In accordance with the DPA2018, participants will have the right to ask to see what data is held relating to them, and this data will be deleted immediately if the participant requests this, in which case the data will not be used in the project. <i>(this box should expand as you type)</i>		
25	List all who will have access to the data generated by the research activity:		
	Yvette Cummings (principal researcher) <i>(this box should expand as you type)</i>		
26	List who will have control of, and act as custodian(s) for, data generated by the research activity:		

	Yvette Cummings (principal researcher)		
	(this box should expand as you type)		
27	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form. Will data be archived – if so how and if not why not.		
	All data will be encrypted and kept in password protected cloud storage on the Company's Office 365 system which will not be shared. Any USB sticks used to store or transfer data will be password protected, and will be reformatted at the end of the project in order to destroy the data. The data will be stored until the completion of the project and then deleted. (this box should expand as you type)		
28	Please indicate if your data will be stored in the UWTSD Research Data Repository (see https://researchdata.uwtsd.ac.uk/). If so please explain. (Most relevant to academic staff)		
	(this box should expand as you type)		
29	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtsd.ac.uk/library/research-data-management/)	YES	☒
		NO	☐
30	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	YES	☒
		NO	☐

SECTION K: Declaration

31	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
	Signature of applicant:	Yvette Cummings	Date: 13.08.22

For STUDENT Submissions:

32	Director of Studies/Supervisor:	Louise Emanuel	Date: 13-9-22
33	Signature:	<i>Louise Emanuel</i>	

For STAFF Submissions:

34	Academic Director/ Assistant Dean:		Date:
35	Signature:		

Checklist: Please complete the checklist below to ensure that you have completed the form according to the guidelines and attached any required documentation:

☒	I have read the guidance notes supplied before completing the form.
☒	I have completed ALL RELEVANT sections of the form in full.
☒	I confirm that the research activity has received approval in principle
☒	I have attached a copy of final/interim approval from external organisation (where appropriate)
☐	I have attached a full risk assessment (and have NOT completed Section H of this form) (where appropriate) ONLY TICK IF YOU HAVE ATTACHED A FULL RISK ASSESSMENT
☒	I understand that it is my responsibility to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice.
☒	I understand that before commencing data collection all documents aimed at respondents (including information sheets, consent forms, questionnaires, interview schedules etc.) must be confirmed by the DoS/Supervisor, module tutor or Academic Director.
☒	I have deleted the guidance notes before submitting the PG2 for consideration

RESEARCH STUDENTS AND STAFF ONLY

All communications relating to this application during its processing must be in writing and emailed to pgresearch@uwtsd.ac.uk , with the title 'Ethical Approval' followed by your name.

You will be informed of the outcome of your claim by email; therefore **it is important that you check your University and personal email accounts regularly.**

STUDENTS ON UNDERGRADUATE OR TAUGHT MASTERS PROGRAMMES should submit this form (and receive the outcome) via systems explained to you by the supervisor/module leader.

This form is available electronically from the Academic Office web pages:

<https://www.uwtsd.ac.uk/academic-office/appendices-and-forms/>

Application Process

All staff research projects and all research students must submit the Ethical Approval Form to the **University Research Ethics Committee** via the Academic Office (pgresearch@uwtsd.ac.uk). Staff research directly in relation to personal study for taught undergraduate or Masters programmes should be submitted via the Institute procedures explained below.

Taught masters and taught undergraduate research Ethical Approval Forms are considered **within Institutes**. Institutes will provide details of the specific processes for this. Where the Ethical issues within any single ethical application are of particular concern the Institute will refer these to the University Research Ethics Committee. Any student activity that involves the collection of primary data needs to undergo Ethical approval, this includes assignment work as well as dissertations.

Notes for guidance in completion of this form

Section A: About You

Please complete all relevant sections

Section B: Approval for research activity

Research proposals must be approved in principle before applying for Ethical Approval. The proposal approval only becomes final when the ethical approval is received.

The process for proposal approval varies according the individual and programme of study:

- Research students, by application on form PG1 to the Research Degrees Committee
- Taught students by review of research proposal within Institutes (Institutes provide specific details of these processes)
- Staff, by agreement by the Academic Director/Assistant Dean

Section C: External Ethical Guidance materials

Many discipline areas are required to operate with the discipline specific codes of research ethics (for example health, psychology, education etc.), any such codes must be listed and you must tick to confirm that you have consulted with these.

Section D: External Collaborative Research Activity

Provide details of the external collaborative partners, where appropriate you might want to submit a copy of the external collaboration agreement with the Ethical Approval Form. If the partner requires the research to be subject to its own internal Ethical approval process then please provide details of that process and a copy of any final (or interim) approvals received from the organisation.

Section E: Details of Research Activity

Remember that the individuals reviewing this Ethical Approval Form may not have seen your research proposal, and also may not be experts in the specific area of your research. The information provided should therefore be jargon free and clearly stated.

Indicative Title: please use the same title as used on the research proposal.

Purpose: the Ethical approval process will want to ensure that the methods you propose are adequate and appropriate to address the research aims and objectives. Excessive additional data collection can be seen as unethical.

Proposed Methods: the Ethical approval process seeks to ensure that you understand the methods that are intended, and that the implementation of those methods will be appropriate and without unnecessary impact on respondents. This section must explain how the methods described will lead to the collection of necessary and sufficient data, but not excessive data. Please be specific.

Location: this needs to mention geographical location and also local situation (for example, within Local Authority Offices in Cardiff, using a private room but close to other individuals). If you are collecting data within an organisational setting then you need to explain the permissions that you have obtained to do this.

Research Activity outside of the UK: please complete this section in detail, and note any guidance you have received. Also describe your own familiarity (or not) with the location that you will be utilising.

Section F: Scope of Research Activity

Please tick ALL of the research activities that might be undertaken. If any additional types of activity are intended then please add an extra box and describe these.

If you have answered no to all questions in F then sections G and I do not need to be completed. . Signatures are still required in section K.

Section G: Intended Participants

Please tick all categories that might apply.

Numbers & Source: if you are using a series of different methods or research activities please list numbers for each stage/phase. Be clear about how you will find respondents. Will you use intermediaries, and if so how? How will you ensure compliance with your sampling strategy?

Information for participants: all participants should be appropriately informed about the research, what is expected of them and what will happen to the information that they provide. The Ethical review process does not ask to see this documentation, but requires this to be reviewed and approved by the Director of Studies in the case of research students, the supervisor/module tutor in relation to students on taught programmes and the Academic Director/Assistant Dean in relation to staff research.

Section H: Anticipate Risks

All research carries some level of risk. The answers you provide to questions in this section will be reviewed to ensure that you have an appropriate understanding of the type of risks involved and how you can mitigate against these risks. If you have completed a full risk assessment, as required for example for laboratory work, field work, clinical tests, diving operations, or by a collaborative partner, you may append that to this form. In that case, please tick the box indicating this has been provided. You will not then be required to complete Section H.

Risk to participants Think very carefully about how your actions/questions/discussions might affect the people you are involving as participants. You might identify the risk as small but it would still be a risk. Many types of question have the potential to make respondents less content with their life / job; you need to recognise and try to ameliorate any such effects
If these are business owners, time with you may reduce profit.

In some locations physical risk is very real to both participants and yourself, please consider this.

Risk to you, the researcher Think about where you will meet people, if there are any dangers involved in the location. If you are meeting people as individuals think about using a public place. In general do not visit people in their own homes or remote locations. If you are talking to individuals about certain issues think about how their responses might affect you emotionally. What about the risk of collecting insufficient data?

Risk to the University When undertaking your research, you are acting as a member of the University (student or staff). Professionalism is important, so it is important to be well organised and well prepared. Punctuality, clarity etc. are all part of this. What will you do to ensure this? You must ensure you do not harm the good name of the University in any way and do nothing to undermine the reputation of the research it conducts and sponsors. Upholding high standards of conduct and integrity are vital in

this regard. You must also conduct the research in such a way to minimise the potential for claims of negligence made against the University, its researchers and any collaborating individual or organisation. In this respect you should always comply with ethical, legal and professional frameworks, obligations and standards as required by statutory and regulatory authorities, as well as the university's Research Integrity and Ethics Code of Practice. Research misconduct in this respect can take many forms, including:

- fabrication: making up results or other outputs (eg, artefacts) and presenting them as if they were real
- falsification: manipulating research processes or changing or omitting data without good cause
- plagiarism: using other people's material without giving proper credit
- failure to meet ethical, legal and professional obligations: for example failure to declare competing interests; misrepresentation of involvement or authorship; misrepresentation of interests; breach of confidentiality; lack of informed consent; misuse of personal data; and abuse of research subjects or material
- improper dealing with allegations of misconduct: failing to address possible infringements such as attempts to cover up misconduct and reprisals against whistle-blowers

Adverse Outcomes. Think carefully about the possibilities, and cover here

Section I: Feedback, Consent and Confidentiality

Feedback to participants: outline your approach. Will interview transcripts be shared with respondents to check accuracy? Will summaries of questionnaire analysis be made available to respondents in some way? Will an overview report be provided? How and when?

Informed consent: Draft letter / e-mail / or heading (or footer) section of questionnaire must be approved by DoS/supervisor (if research student),

supervisor/module tutor if taught student, or Academic Director / Assistant Dean if a member of staff.

Confidentiality/Anonymity. Explain clearly how you will ensure confidentiality and anonymity.

Section J: Data Protection and Storage

Before completing this section, it is necessary to read the University's Research Data Management information. The questions that follow are designed to ensure compliance with the Data Protection Act as well as established research protocols.

Many research activities will involve electronic transfer of data and use of data management systems in the summarisation and analysis of data. You will need to explain these in relation to compliance with the Data Protection Act.

Think carefully about who will have access to your data, this will include supervisors and examiners. Also that a thesis will be made available via the University library and the British Library system. If you are seeking an access bar for a period of time after completion then mention it here. If you will provide a copy of your findings, or intend to give a presentation, to a facilitating/ supporting/accessing organisation then explain that in this section. But also think about the general principle of data sharing, as explained in the Research Data Management information.

In terms of storage of data please ensure security, and also mitigate against loss of data.

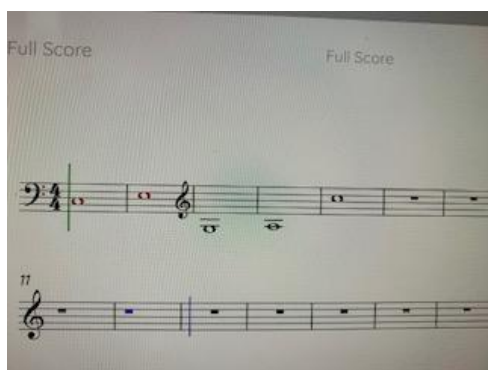
Section K: Declaration

Ensure the appropriate countersignatures have been provided

Look carefully at the checklist and ensure that you comply with and tick all that are relevant to your research.

Appendix 8

Pitch matching test



Thanks

The researcher is deeply grateful for the generous gift of time and support given by the focus group members, and for the wisdom they shared. She is also touched by the trust she was shown by the student cohort whom she had not met prior to the study. Their willingness to participate and candour of their responses provided not only rich data but emotional life and colour to this study.

I am indebted to you all.

Commented [SS38]: This is extraneous to your report and the project. If you want to thank participants, put this into an appendix – it's taking away from your word count and not adding to your reflection of the study.