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BMPF7010

Work based Learning Module

The Role of Solfège Hand Signals for Developing Singers Pitch Matching Skills: A Document Analysis Approach

Introduction



Document analysis



‘A qualitative document analysis (QDA) is a research method where researchers meticulously examine and interpret documents to uncover meanings, themes, and patterns within the text’

(Morgan, 2022)

Why is a QDA the best option for my research?

1. Eliminates logistical issues encountered from a participant-based study due to limited student access as I do not have a teaching practice.

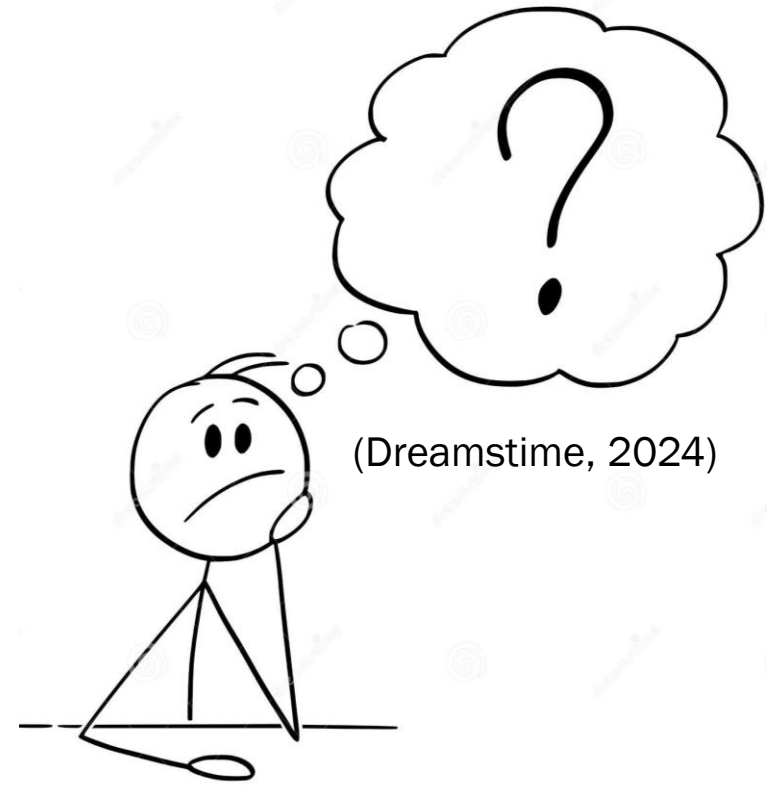
(Ayranci and Baskan, 2021)

2. Facilitates a review of the research to establish if the teaching methods would be effective for my future practice.

(Kayesa and Shung-King, 2020)

3. Provides a systematic approach rather than an experiential, enabling a rigorous examination of the documents.

(Morgan, 2022)



The research question

**The Role of Solfège Hand Signals
for Developing Singers Pitch
Matching Skills: A Document
Analysis Approach**

What is Pitch?

Pitch refers to the highness or lowness of a vocal sound
(Andhalkar, 2015)

Singing on pitch is also described as singing 'in tune'
(Kob et al., 2011)

Singing in tune or on pitch means the correct note at the right time in a melody
(Sakajiri et al., 2015)

What is solfège?

Solfège in singing is a system that uses specific syllables to represent musical pitches

(Schramm, Souza Nunes and Jung, 2016)

This allows singers to practice skills like ear training, sight-reading, and understand the relationships between notes

(Luen et al, 2015)

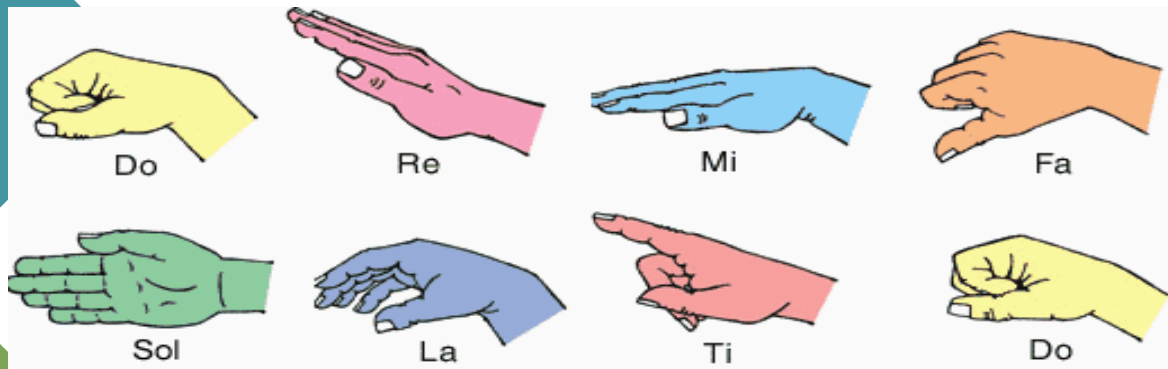
What are solfège hand signals?

- Each syllable has an assigned hand signal

(Luen et al., 2019)

- Hand signals give a physical placement for vocal pitches that helps with memory and singing on pitch

(Bowyer, 2015)



Solfège systems

Movable do solfège

The beginning note or tonic note (do), can start in any key on the major scale

(McClung, 2008)

Fixed do solfège

The starting note is always a C on the major scale

(Siromoto, 2016)

Context

- Pitch control is a fundamental and foundational skill required for optimal singing (Wang, 2022).
- The study will ascertain if training solfège hand signals will assist pitch achievement
- To do this, more knowledge is needed to understand solfège hand signals, syllables and pitch
- Pre-existing teaching methods will be explored to see if they would be useful for my practice

Justification

- Future intentions are to teach students pitch skills with the assistance of solfège hand signals.
- Despite the popularity of solfège hand signals, the benefits have been challenged and so this study will further explore the efficacy (Cox, 2016).
- Gaining better understanding of solfège hand signals may help future students to identify pitching issues and how to correct them (Steenstrup et al., 2021).
- Teaching a specialised skill such as solfège may help to increase student numbers (Zydney et al., 2012).

Methodology

Interpretivist Paradigm

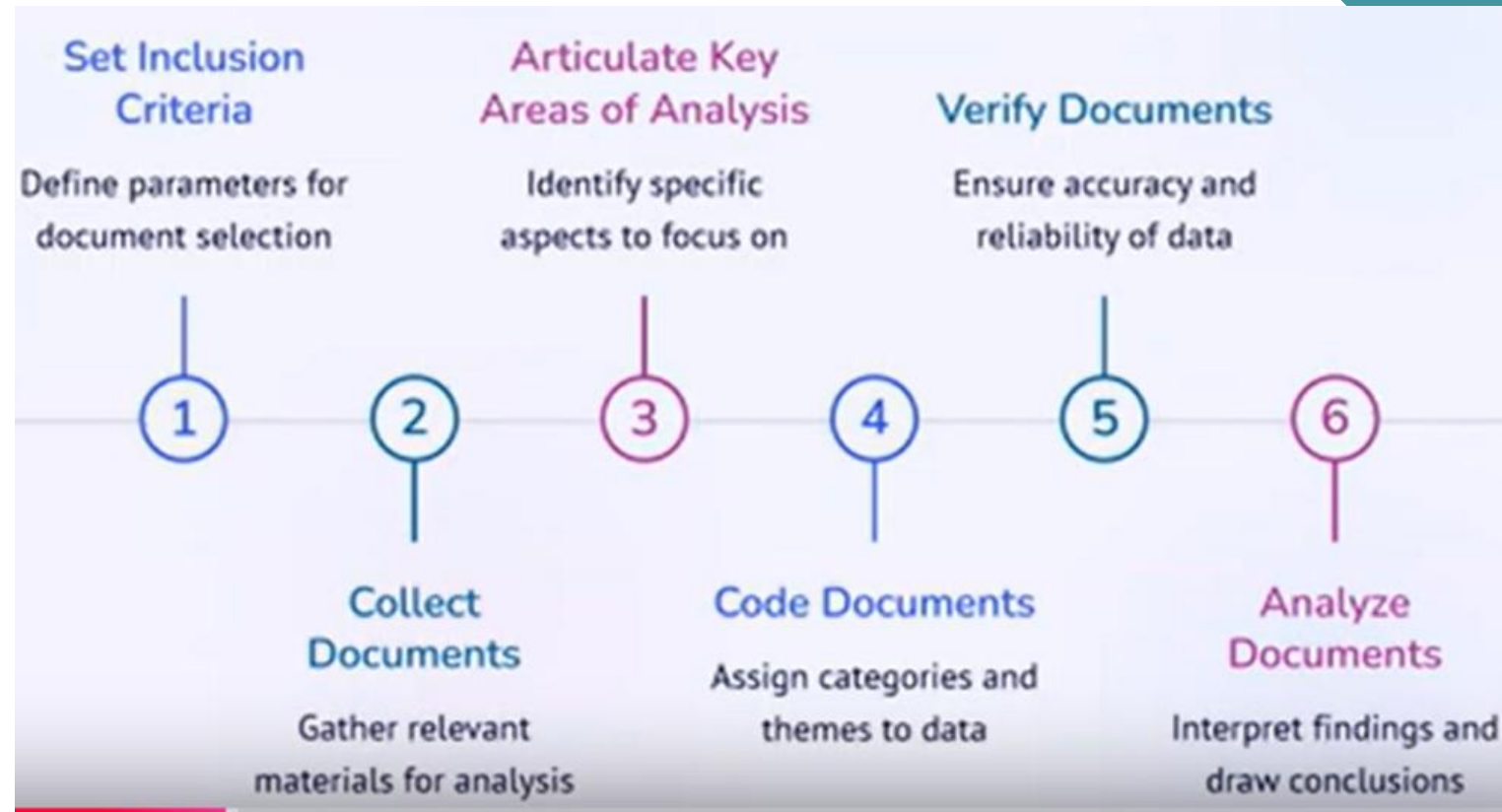
Suits a document analysis as it allows researchers to understand interpretations found within documents by focusing on the subjective experiences of the author and its participants

(Morgan, 2022)

6 step thematic analysis framework (Altheide, 1996)

- Qualitative research method
- Identifies and organises themes
- Similar to QDA and so will complement each other
- Aligns with the interpretivist paradigm

(Rosairo, 2023)



(Altheide, 1996)

Insider Research



- Creates shared values between the insider researcher and other researchers
(Fleming, 2018 and Dreamstime, 2024)

- Helps to develop deeper understanding of a certain topic by guiding the research and not influencing it
(Wilkinson and Kitzinger, 2013)



- **Bias issues**
- **Loss of objectivity**
(Greene, 2014 and Dreamstime, 2024).



- research should be carried out with an open mind despite any prior knowledge.
- clearly defining your research question
(Berkovic et al. 2020 and Dreamstime, 2024)



(Eos, 2025)

- (Emruli, Nuhuiu and Kadriu, 2016)

Methods

Preliminary Literature review

- Helps gain a better perspective of the theoretical framework
(Chigbu, Atiki and Plessis, 2023)
- Provides a foundational understanding of the subject area before analysis begins
(Wills, 2022)

Coding Framework

Braun and Clark (2006) 6 step coding framework



(Dreamstime, 2024)



- Explanatory, detailed, easy to follow
- Assists with coding by hand
- Offers flexibility, accessibility and transparency
- Assists in identifying patterns within the data
(Wallin and Adawi, 2017)
- Bias challenges
- May promote organisational approach instead of analytical
- Coding by hand may produce human errors
- Time consuming
(Javardi and Zarea, 2016)

Coding process

Strauss and Corbin (1990) coding system

OPEN

- Initial stage
- Breaks the data down into smaller sections
- Assigns descriptions to these sections
- Identifies initial themes
(Scott and Medaugh, 2017)

AXIAL

- Secondary stage where connections between the initial themes are found
- Develops deeper understanding of the data
(Scott and Medaugh, 2017)

SELECTIVE

- Final phase
- The core theme is established from the previously coded data
(Scott and Medaugh, 2017)



- This coding framework suits a document analysis due to its structured approach which helps to identify themes (Kampira, 2021).



- Challenges could include biases, being time consuming and complex (Mcleod, 2024).



- Using clear research questions and reflection to identify any issues or biases could mitigate this (Holton, 2010).

(Dreamstime, 2024)

Reflective practice

Jasper's (2013) reflective framework

Experience, reflection and action (ERA)

This reflective approach monitors the research journey, develops strategies and highlights strengths and weaknesses
(Gordon, 2016)

May be too basic to capture the complexity of realistic situations which could potentially lead to depthless analysis
(Ćirković-Miladinovićity and Dimitrijević, 2020)



Reflective Journal

Enables a researcher to reflect upon the experience to understand the impacts, advantages and drawbacks to the research
(Wallin and Adawi, 2017)

Braun and Clarke's (2006) coding framework aligns with a reflective journal method

Overview of the research

Data Collection

Within the last 10 years

Different databases

Peer reviewed

1. ResearchGate
2. UTWSD Library
3. Google Scholar
4. Journal of Voice
5. Sage Journals
6. Music Education Books

Online search strategy

Keywords

Table 2. Search terms / keywords

	Document Type	Key words searched
1	Pitch training specific	Pitch, intonation, interval training, singing in tune.
2	Solfège hand signals specific	Solfège hand signals, Kodály, Curwen, Solfa hand signals, Solfeggio hand signals.

Document inclusion and exclusion criteria

Table 3. Inclusion and exclusion criteria for selected peer-reviewed

Inclusion Criteria	Exclusion Criteria
Documents published after 2014	Documents publishes before 2014
English documents	Non-English documents
Peer-reviewed sources	Non-peer-reviewed sources
Sources will full access	Documents with restricted access
Involving only adult singers	Studies with child participants
Primary studies	Non-primary studies
Pitch training related to singers	Sight singing
Intonation training related to singers	Vocal health
Curwen hand signals	Online ear training software
Kodály hand signals	Scales in singing
Solfège hand signals	Rhythm training related to singers
Moveable and non-moveable solfège	
Interval training	
Empirical and theoretical data	

Reasons for Exclusions

- Large areas of learning such as sight singing could benefit from an independent study, these topics broaden the research scope too much, and so it helps to keep the data analysis manageable.
- Vocal health, ear training software's and child students is not a future teaching intention of mine.
- These exclusions keeps the focus on teacher-led approaches.

Screening methods

- Online search using the keywords to identify potential sources
- Read abstract and conclusion to check its relevance
- Read methodologies and findings for more clarity
- If suitable, carry out a full review to check it complies with the inclusion and exclusion criteria
- Deeper review, multiple times to extract data
- Aligns with Altheide's flexibility phase

Screening results

- 22 documents selected for analysis
- Including empirical studies, reviews and participant-based research
- No restricted access to the studies



(ICI Webpub System, 2023)

Study Characteristics

Studies were initially categorised into 4 areas to identify their focus

Pedagogy

Physiology

Psychology

Characteristics

Pitching and solfège hand signals are multimodal skills that requires physiological, psychological and pedagogical involvement, with additional impacts from the level of training received, age and gender.

(Hutchins, Larrouy-Maestri and Peretz, 2024).

Consideration to Grey Literature

- 1 Grey literature document was included (conference proceeding)
- This document underwent the same coding system as the peer-reviewed

Withdrawn Documents

- 2 documents were withdrawn
- not peer-reviewed, involving child participant

22 Peer-reviewed documents

1 Grey literature document

Sample sizes ranged from
11 - 344

Findings

11 documents were
participant-based

Male and female
participants

Age range 18 -32 years

11 documents were reviews

Non-professional and
professional participants

Findings

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Pitch	Hutchins, Larrouy-Maestr and Peretz, (2024)	Using the pitch recall technique and solfège hand signals together is a successful teaching strategy	Issues with memory and recollection would impact the ability to learn pitch
	Hutchins, Larrouy-Maestr and Peretz, (2024)	Using a system of recall where the notes are initially heard, helped the singers to match the pitch more accurately	
	Kikpatrick, (2020)	General arm and hand gestures assist pitching, which strengthens the use of solfège hand signals	

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Solfège	Agbenyo, (2021) and Eroglu, (2021)	Solfège develops an aural understanding of pitch	Using solfège could prohibit the skill of critical listening needed for singing
	Reifinger, (2020) and Eroglu, (2021)	Solfège benefits pitch understanding and assists singers to recognise the notes	Teachers have reported solfège can be unsuccessful due to the students not being engaged
	Reifinger, (2020) and Kis-Zuvela, (2018)	Solfège systems helps to identify intervallic relationships (the sequences of intervals within the music)	There is a gap in the research of solfège studies, more is needed
	Agbenyo, (2021)	Using visual aids to present the hand signals assists students on memorising them	

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Combining solfège hand signals and pitch training	Okeyo, Shithandi and Kanake, (2022) and Reifinger, (2020)	Combining solfège hand signals with ear training improves pitch, rhythm, melody.	Many teachers teach these skills separately which is less effective as one support the other
	Freya-Clark, (2017) and Zhao, (2024)	The combination helps to recognise intervallic relationships	Using a combined strategy in a large group setting can impede the individualism of the lesson
	Okeyo, Shithandi and Kanake, (2022) and Zhao, (2024)	The combination improves critical thinking and memory ability.	Students sometimes find the collaboration boring and disengage
	Eroglu, (2021)		More research is needed to determine the impacts of combining solfège hand signals and pitch training

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Curwen Hand Signals	Freya-Clark (2020) and Reifinger (2020)	Multifaceted teaching strategy which caters to many learning styles	Some studies have produced conflicting results regarding the efficacy of using Curwen hand signals to aid pitch
	Agbenyo (2021) and Reifinger (2021)	Positively improves pitch accuracy and stimulates working memory and recall	Studies showed teachers reported feeling more benefitted by using the Curwen system than students did
	Freya-Clark (2017) and Agbenyo (2021)	Helps students to recognise certain pitches not just aurally but visually	Further research would be beneficial to gain further understanding of how Curwen hand signals affects pitch

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Kodály Hand Signals	Kutlimuratovich (2024) and Kis-Zuvela (2018)	Successful due to developing pitch ability and music relationships with the use of syllables which provide a vocal reference to each musical pitch	Focusing on hand signals could prohibit the critical listening skills
	Mete and Dundar (2020) and Eroglu (2021)	Students reported improved pitch after using the Kodály method during lessons	Teachers have reported Kodály as a non-successful teaching method due to lack of student engagement
	Kutlimuratovich (2024) and Eroglu (2021)	Combining Kodály hand signals and pitch training techniques aids pitch accuracy	Lack of teachers trained in Kodály method
	Reisensweaver (2014) and Eroglu (2018)	Learn pitch skills quicker with Kodály as it focuses on developing a strong foundation in musical ear training	Gap in the research. More Kodály studies are needed

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Movable and Fixed Do systems	Agbenyo (2021) and Freya-Clark (2017)	Studies have shown both movable and fixed do systems are affective methods when training pitch	Teachers must be competent, experienced and confident when teaching these systems
	Greenhead (2013) and Eroglu (2021)	Studies showed that movable do improves relative pitch and fixed do improves absolute pitch	Not enough teachers specifically trained in solfège
	Greenhead (2013)	Many scholars favour movable do solfège, stating less pitch errors with this method due to understanding tonal hierarchy	

Interval Training	Kervin (2023)	Interval training is essential for teaching pitch by recognising the distance between notes and solfège helps intervallic training due to using syllables to identify those relationships. Therefore, it works hand in hand	A balanced approach ensuring other methods are not neglected
	Eroglu (2021) and Kervin (2023)	Students have reported intervallic training as simple, understandable and advantageous	Risk of vocal strain from large intervals

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Physiology	Botallico, Gratezer and Hunter (2017) and Hutchins, Larrouy-Maestri and Peretz (2014)	Vocal training enhances the agility of laryngeal muscles which in turn aids pitch	Inaccurate use or insufficient training leads to poor pitching
		Onset of training is paramount to mitigate physiological issues. The earlier solfège and pitch skills are learnt the better	
Characteristics	Steenstrup (2021)	Some studies have shown age does not affect pitch ability or the learning of solfège	Studies do not determine definitively if age or gender affects learning pitch or solfège
	Wolf and Kopiez (2018)	Some studies have shown that gender does not affect ear training ability	Not enough research to determine which characteristics if any, affect pitch

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Psychology	Steenstrup (2021) and Botallico, Gratezer and Hunter (2017)	Stimulating cognition through the use of solfège hand signals aids pitch training	The lack of auditory processing is detrimental to singing ability
	Sha (2024) and Steenstrup (2021)	Singers have the ability to transform visual factors into auditory factors	Working memory issues may impact the ability to use solfège hand signals effectively
	Sha (2024) and Kis-Zuvela (2017)	Mental rehearsal strategies improves a singers 'inner hearing' ability	Some studies argues that the level of training and expertise of a singer does not impact pitch achievability
	Kis-Zuvela (2018)	Extensive learning of solfège leads to better pitch accuracy	

Findings category	Author	Benefits/Positives	Drawbacks/Negatives
Grey Literature	Qinfeng (2019)	Corroborated that solfège enhances music comprehension, pitch and rhythm skills	Solfège is considered a basic skill and so lots of training is needed for the effects to be evident
	Qinfeng (2019)	Teaching solfège reinforces auditory ability and improves cognitive creativity	

Limitations

- Using empirical and theoretical together was time consuming/constant checking double counting
- Lots of studies were child focused limiting the amount of documents to analyse
- Many documents were older than ten years which may have provided useful information
- Lack of up to date studies of my research area
- Some documents were fully restricted and so couldn't be included/ subscriptions were needed for some
- Gantt charts are useful, but time should have been allocated for unforeseen events

Pitch ability requires good vocal motor skills and accurate use of the vocal muscles. Studies suggest these skills should be mastered before incorporating solfège hand signals.

(Bottalico, Gratezer and Hunter's, 2017)

Overall, pitch and solfège are successful when trained separately, but they complement each other and collaboration could be crucial when teaching pitch

(Okeyo, Shithandi and Kanake, 2022)

Movable and fixed do systems both beneficial for pitch training, but movable is considered better for early onset of solfège training and fixed is suited for more advanced learners

(Eroglu, 2021)

Discussion

Testing methods were different across the studies as were sample sizes which could explain the disparity in the results. More research of similar tests would provide more accurate results.

Memory and cognition play a big part in learning solfège hand signals and so good knowledge retention ability is essential which some students may find challenging. This may require an adaptive teaching approach to mitigate

(Sha, 2024)

The age of the adults, gender and level of training received produced conflicting results in reference to the effects on pitch achievement, which calls for further studies to determine this

(Wolf and Kopiez, 2018)

Discussion continued

More teachers need training in solfège and their approach needs to be engaging for students to keep their focus during lessons

(Zhao, 2024).

Gaps in the research regarding the collaboration of solfège hand signals and pitch training

(Hutchins, Larrouy-Maestri and Peretz, 2024).

The reflective practice allowed me to document my thoughts and issues, enabling me to evaluate and reflect upon them.

Altheide's (1996) framework was beneficial as it allowed for flexibility and generated clearer perspectives by not being a rigid model

Many of the reviews did not disclose the duration of the studies they reviewed. Duration is a contributing factor to results and better consideration to this should be given in the future

(Feely et al., 2020).

Conclusion

Was it Answered?



Research question

The Role of Solfège Hand Signals for Developing Singers Pitch Matching Skills: A Document Analysis Approach

- Using a synthesised teaching approach
- Using visual aids and memory tasks
- Teachers should be competent / well-trained
- Training should be engaging for students
- Even though the research has evidenced solfège hand signals benefits pitching, more research is needed to answer outstanding questions raised in this study

Thank you!!



(Pokorny Consulting, 2025)

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