



Framework Vocal Development Making Learning Processes Accessible

Background

- Vocal development is a biopsychosocial process, shaped by biological, psychological, and social factors (Russo et al. 2019).

| Biological | | | Psychological | | Sociocultural | | |
|------------|-------------------------|------------------------|---------------|-------------------------|----------------|--------------------------|-----------------------|
| Gender | Age | Genetic/ Physiological | Cognitive | Personality/ Motivation | Family Support | School | Culture |
| Female | Infancy/Early Childhood | Musical | Attention | Emotion | Music in home | Music Programs | Language |
| Male | Middle Childhood | Motor | Memory | Interests | Stability | Extra-curricular program | Socio-economic Status |
| Divers | Adolescence | Hearing | Creativity | Resilience | | Teachers | Community |
| | Adulthood | | Reasoning | | | | Religion |
| | Older Adulthood | | | | | | Choirs |

- Singing practices are influenced by cultural accessibility and inclusion, affecting who participates and how (Welch et al., 2014).
- Learning environments depend on a supportive culture of feedback and assessment, shaping musical growth (Imthurn, 2023).

Development Method

- Textbooks and curricula as resources: Bergen (2000); Sadolin, 2013; Estill et al., 2019; Reid, 2001; Deutschschweizer Erziehungsdirektoren-Konferenz, 2015)
- Identification and mapping of isolatable vocal skills
- Systematic structuring of skills across pedagogical approaches
- Matrix model linking skills to activities and cultural contexts

Multi-Layered Model of Vocal Development

Core layers:

- Tools & skills: technical and perceptual vocal abilities
- Musical activities: practices such as rehearsal, performance, and improvisation
- Cultural context of singing: social and cultural environments shaping participation

Additional layers:

- Singing across the lifespan: developmental perspective from early to late stages
- Singer identity: evolving self-concept and artistic expression
- Continuous feedback through listening: iterative refinement via auditory perception

Use in Teaching

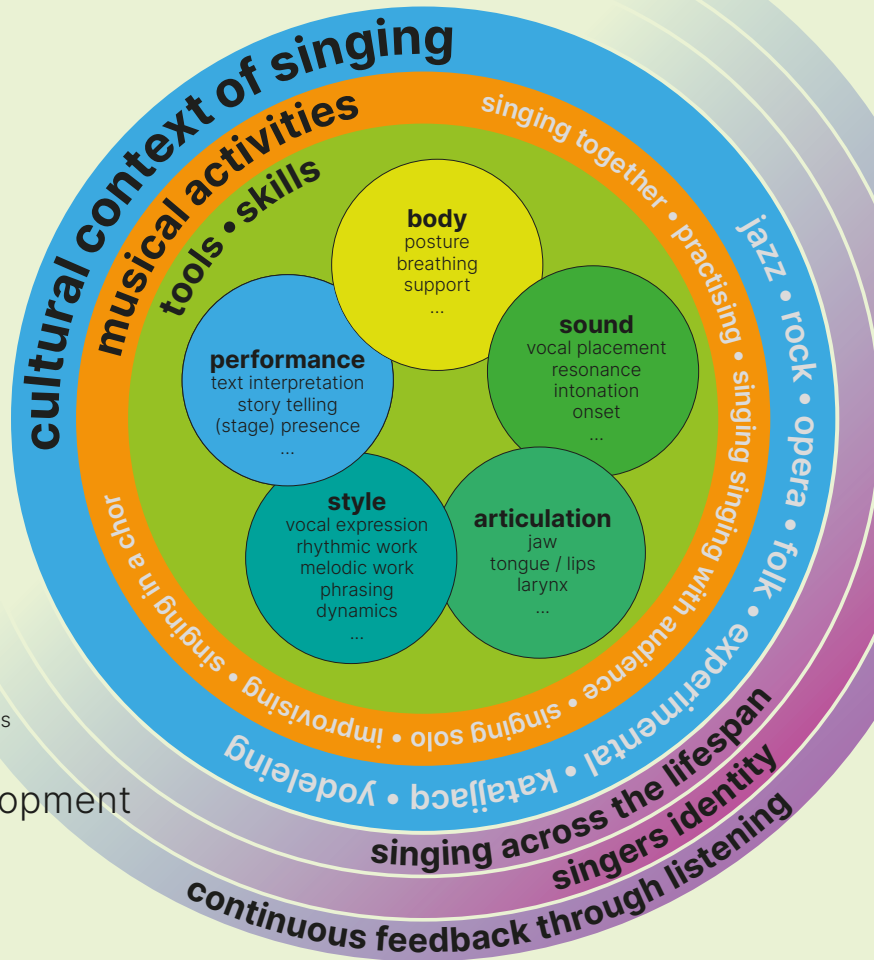
- A landscape approach: vocal development as a dynamic, non-linear process
- Visualization of individual learning trajectories and experiences
- Learners enter at different starting points
- No fixed sequence – flexible pathways instead of linear progression
- Focus on targeted intervention where challenges arise
- Supports individualized and adaptive vocal training

Ongoing Research

- Expert interviews to refine and validate the model
- Implementation and testing with students in teacher training (see usecases)
- Iterative evaluation of pedagogical impact and usability (planned)

Future Directions

- Seeking collaboration partners for research and development
- Web-based vocal portfolio aligned with the model's layered structure
- Development of technology-assisted tools to support vocal learning



Take a look at our use cases

- Use case 1: Secondary teacher student
- Use case 2: Primary teacher student

Interested in collaborating?

- We would love to be in contact.
- Get in touch with us: gabriel.imthurn@fhnw.ch

References

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