Marcin Ostrowski

Doctoral dissertation summary

From the Mozart effect to the OPERA hypothesis - the influence of music education on foreign language development of students of Polish comprehensive music schools.

The aim of the dissertation was to examine the connection between musical and linguistic development as well as to determine the main challenges and possibilities of foreign language education conducted in a unique context of Polish comprehensive music schools.

Present research points to several seemingly unrelated issues such as the influence of music listening on cognitive functioning, the influence of instrumental and vocal music education on linguistic and generally cognitive development and the effects of music and music-based activities in music therapy. The most plausible factor underlying the beneficial effects of music listening, music making and music therapy on cognitive functioning is related to the auditory processing mechanisms and the interactions between different neural networks. The research into the relation between music and language and the related mechanisms is important both for linguistics and glottodidactics as well as their potential educational applications. Explaining the relation between music and language perception as well as its connection to language production competence and effectiveness of memory processes can raise understanding of the influence of short-term and long-term music listening and musical practice on emotional, social and cognitive functioning and development of students of music schools.

The theoretical part of the dissertation contains four chapters dedicated to a critical analysis of the research on domains of music and language, their functioning and relations.

The first chapter presents the subject of the study in the context of the main aims and challenges of glottodidactics and contemporary education.

The second chapter provides the theoretical background of the connection between music and language. It discusses the structural and functional architecture underlying perception and production of music and language as well as some plausible long-term consequences of musical practice.

The third chapter analyses research verifying positive influence of music listening and music making activities. It discusses four main potential types of effects such as the impact of music listening on cognitive and emotional functioning, the relation between levels of musical, cognitive and linguistic aptitudes, the influence of music education and practice on cognitive and linguistic functioning and development and, finally, the achievements of music therapy. All relations and effects discussed in the chapter are linked by the mechanisms of auditory processing of music and speech and stem from both short-term and long-term participation in music-based activities.

The fourth chapter is devoted to the analysis of the organisation of music education in Polish comprehensive music schools. It focuses on the requirements and possible main challenges as well as opportunities of this type of education. It also involves a comparative study of different European models of music education.

The empirical part of the dissertation incorporates three elements: a psycholinguistic study on the competence in music and speech perception of students of music school, a nationwide survey addressed to foreign language teachers working in Polish comprehensive music schools and a case study involving a year-long experimental language course addressing special needs an abilities of music students. Study design provides three varying perspectives on the influence of music education on foreign language acquisition.

The fifth chapter presents the aims, hypothesis and methodology of the study. It gives an introduction to the psycholinguistic study, the nationwide survey and the case study with an in-depth description of the Music and Language Integrated Learning concept and course requirements.

Chapter six presents the results of the psycholinguistic study verifying the relation between the competences in music and speech perception. The study involved measurements of music students' auditory sensitivity to phonological and prosodic aspects of speech and sensitivity to pitch, rhythmic and melodic aspects of music perception.

Chapter seven holds an analysis of the nationwide survey of teachers of foreign languages working in Polish comprehensive music schools. The survey focused on issues such as: organisation of teaching, potential favourable teaching and learning conditions, challenges and difficulties, opinions concerning the influence of music education on language learning and the teaching methods and techniques.

Chapter eight presents the results of a case study. It involves a report of a year-long language course and an analysis of students' results and teacher's observations. Students' achievements in receptive and productive language skills were subjected to statistical and correlation analysis and compared with the results of the psycholinguistic study. Finally, it also discusses the validity of the idea of music-integrated language learning.

Final chapter provides a recapitulation of study findings regarding the link between music and speech perception. Conclusions referring to the most probable effects of music education are followed by discussion of study limitations, unanswered questions and prospects for future research such as the link between music and speech perception, the use of different modalities and the effectiveness of verbal learning and memory processes.

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