APPLICATION OF COGNITIVE PSYCHOLOGY IN THE MUSIC NOTE COGNITION OF EXCEPTIONAL CHILDREN

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Abstract
In special music education, music note cognition can improve the psychological rehabilitation, intellectual development and physical coordination of exceptional children. From the perspective of cognitive psychology, music note cognition is conducive to confidence and anti-frustration. This paper explores the application of cognitive psychology in the music note cognition of exceptional children, and studies the correlation between the sense of identity and psychological health of these children. The identity of exceptional children was investigated through literature analysis and questionnaire survey, including four dimensions: personal identity, relational identity, collective identity and social identity. The results show that music note cognition is a medium for the music education of exceptional children; exceptional children generally have minor problems with psychological health; their sense of identity varies with gender, origin, age and disability type, and is negatively correlated with psychological health; exceptional children with congenital disabilities have better psychological health than those with acquired disabilities. This research lays the basis for further application of cognitive psychology in the music note cognition of exceptional children.

Key words: Music Education, Note Cognition, Exceptional Children, Cognitive Psychology, Identity, Psychological Health.

INTRODUCTION
With the development of the times and the advancement of the society, in the current education system, the education of exceptional children has received more attention from people. Special education is an important part of education, and its aim is to achieve education of general and special cultivation objectives (Gewirtz & Youssef, 2017). Compared with general education, special education has very different educational objects, it can be regarded as an independent professional discipline, and we should emphasize its particularity in education contents and education methods (Dwairy, 2010; Brkic, 2013). Music education is a kind of educational practice with music as its content. Music education is inseparable from music note cognition, and music always expresses beauty with a beautiful form and has a positive influence on people’s emotional and spiritual areas (Sala & Gobet, 2016). The objects of special music education are the exceptional children with either psychological or physiological disabilities whom should be paid special attention to by the society. The music teaching mode should be adjusted according to the teaching content and classroom teaching arrangement. Music education helps exceptional children cultivate the sense of identity, and it uses music to help them develop other abilities, so as to promote their development in various aspects (Registe & Hilliard, 2008; Costa-Giomi, 2015).

The teaching objects of exceptional children’s music note education are children with visual impairment, hearing impairment, limb disability or intellectual disability. These children...
generally receive education in special schools, and their identity formed in this objective environment are exceptional children (Sachs, Kaplan, Sarkissian et al., 2017). The special identity of exceptional children will accompany them throughout their whole lives. Therefore, they often have more psychological problems than ordinary people. The exceptional children’s sense of identity is the individual’s cognition of self-identity, the group it belongs to, and the accompanying emotional feelings, it’s similar to culture identity (Ribeiro & Santos, 2017, Raglio, Farina, & Giovagnoli, 2014). At present, from the perspective of psychology, judging the identity of exceptional children population is lack of reliability and validity, so it’s very hard to reflect the identity of the subject (Levitin, Grahn, & London, 2018). Based on the perspective of cognitive psychology, this paper explores its application in the music note cognition of exceptional children, and studies the correlation between exceptional children’s sense of identity and their psychological health, which is conducive to the subsequent cultivation of exceptional children’s identity.

CURRENT STATUS OF EXCEPTIONAL CHILDREN’S MUSIC EDUCATION

In terms of psychology, music education is very important for exceptional children. It can guide the exceptional children’s emotions and minds to grow healthily, and music notes would penetrate into the depths of their heart with the strongest power (Maclean, Brown, & Astell, 2014). In addition, collective music activities would guide exceptional children to communicate merrily with others in a world they are oblivious of themselves, so as to gradually improve their practice spirit, cooperative spirit and group consciousness. To a certain extent, music note cognition can also make up for exceptional children’s physiological and psychological deficiencies, and enhance their perceptual ability, cognition level, memory, imagination, and thinking skills (Fischer-Terworth & Probst, 2011). Music note cognition is significantly correlated with special education, and music notes can guide people to achieve a free realm where the spirit is an infinite transcendence, notes are media for music communication, and have an important role in special music education and music treatment (Strick, de Bruin, de Ruiter et al., 2014).

Figure 1 shows the age distribution of music teachers for exceptional children in China. It can be seen that the music teachers of each age group are not much different. The age group of teachers with the widest distribution is the 30-45 age group, teachers in this age group are more enterprising and responsible, which is more favorable to the music education of exceptional children. Figure 2 shows the survey results of how exceptional children like music lessons, it can be seen that most exceptional children in special schools like music or like music very much, and music has become the major driving force for their study, but there are also a few exceptional children who do not like music.

APPLICATION OF COGNITIVE PSYCHOLOGY IN MUSIC NOTE COGNITION METHODS OF EXCEPTIONAL CHILDREN

The construction of children’s cognition starts from the educational environment. By receiving information from external environment that acts on individuals, children gradually form their cognition of the world. In terms of school abilities, children are very malleable in thoughts and intelligence, and it's
the same for the exceptional children. Music note cognition education will stimulate the strong curiosity in exceptional children, so that they would explore the unknown and engage in new communication. Figure 3 shows the information cognition model of exceptional children. With music note cognition education as an example, by perceiving music notes and processing them with their brains, exceptional children can form experiences and memories with their own characteristics and store them in the brain, but the cognition system is controlled by the regulatory system and affected by one's emotions and status.

The principles of exceptional children's music education include the function principle and the interestingness principle. Different from ordinary children's education, the exceptional children's education process should be simple, personalized, gamified and emotional, so as to cultivate their sense of identity and psychological health. In a sense, cognitive psychology is a psychological mechanism evolved from the human brain, it includes two kinds of mechanisms, the existential mechanism, and the evolutionary mechanism. By understanding the differences between special children and normal children in cognitive psychology and cognitive thinking, through music note cognition, the purpose of physical and mental treatment for exceptional children could be achieved.

**Figure 3. Information cognitive model of exceptional children**

![Information cognitive model of exceptional children](image)

**RESEARCH ON THE CULTIVATION OF EXCEPTIONAL CHILDREN'S SENSE OF IDENTITY**

**Investigation of exceptional children's sense of identity**

From the perspective of cognitive psychology, we need to pay attention to the effect and influence of the interaction between individual and group. Identity should emphasize the emotions and the sense of belonging of members in a group. For exceptional children, their special identity should reflect the feeling and acceptance of special culture. Currently, commonly used methods of identity psychology include questionnaires, interviews, case studies, and implicit association tests (IAT). This paper uses literature analysis and questionnaire survey to study the identity of exceptional children. The identity dimensions include personal identity, relational identity, collective identity and social identity. The cultivation of identity is influenced by gender, region, congenital-or-acquired disability, grade, and type of disability, and here assumes that the identity is negatively correlated with psychological health.

**Figure 4. Distribution of disability type and grade of research subjects**

Figure 4 shows the distribution of disability type and grade of the research subjects. This study conducted surveys on the exceptional children of first, second, third, fourth and fifth grades of a certain region, respectively, and the students of various disability types in each grade were calculated and shown in the figure. Before the analysis of each factor, the relationship of the question items in the survey questionnaire was analyzed according to the Bartlett spherical test, and it's found that relationship between the question items was excellent, which is very suitable for factor analysis. The questionnaire analysis in this paper used the five-point scoring method and the SPSS20.0 was adopted for the
statistical analysis of the data. Figure 5 shows the comparison of the differences in the identity of different types of exceptional children. Figure 5(a) shows the gender differences; from the figure we can be seen that male students have higher score in collective identity, while for other identity items, the scores of the female students are all higher than that of the male students, and female students’ relational identity score is significantly higher than the male students. Figure 5(b) shows region differences. It can be seen that the identity score of exceptional children in rural areas is higher than that of exceptional children in cities. Figure 5(c) shows the differences between congenital disability and acquired disability; it can be seen that the identity score of exceptional children with congenital disabilities is lower. Figure 5(d) shows the grade differences. It can be seen that there is no obvious law in the relationship between grade difference and identity score, the one with the most obvious law is the relational identity, and it shows that with the increase of age, the relational identity score becomes lower; Figure 5(e) shows the differences in disability types. On the whole, exceptional children with hearing disability have the lowest identity score, followed by limb disability and visual disability.

Figure 5. Comparison of identity differences among different types of exceptional children

(a) Gender differences

(b) Region differences

(c) Differences in congenital-or-acquired disability

(d) Grade differences

(e) Disability types
Relationship between exceptional children's sense of identity and their psychological health

Table 1. Descriptive statistical analysis of psychological health of exceptional children

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<tr>
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<th>Compulsion</th>
<th>Paranoia</th>
<th>Hostility</th>
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<tbody>
<tr>
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<td>2.48</td>
<td>2.39</td>
<td>2.26</td>
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<td>SD</td>
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<td>M</td>
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<th>Emotional instability</th>
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<td>SD</td>
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In order to explore the relationship between exceptional children's sense of identity and their psychological health, a psychological health sample form was compiled, and the psychological health conditions of exceptional children were summarized as compulsion, paranoia, hostility, interpersonal sensitivity and tension, depression, anxiety, maladjustment, emotional instability, and psychological imbalance. Table 1 is a descriptive statistical analysis of the psychological health conditions of exceptional children. It can be seen that the scores of all dimensions of psychological health are greater than 2, which means that exceptional children do have problems in each factor. Analysis of independent samples shows that there is no significant difference in the psychological health of exceptional children of different genders and regions, but the exceptional children with congenital disabilities have higher psychological health level than the exceptional children with acquired disabilities. Figure 6 shows the comparison of differences in the psychological health of exceptional children of different grades, it can be seen that for exceptional children of different grades, there are significant differences in the maladjustment, which means that younger exceptional children have certain psychological problems in adaptation.

CONCLUSION

Based on cognitive psychology, this paper explored its application in the music note cognition of exceptional children, and studied the relationship between exceptional children's sense of identity and their psychological health, which is conducive to the study of the subsequent cultivation of exceptional children's sense of identity. The specific conclusions are as follows:

1) Music education can guide exceptional children to communicate with others merrily in a world they are oblivious of themselves, so as to gradually improve their practice spirit, cooperative spirit and group consciousness, as well as make up for exceptional children's physiological and psychological deficiencies to a certain extent.

2) With music note cognition education as an example, by perceiving music notes and processing them with their brains, exceptional children can form experiences and memories with their own characteristics and store them in the brain, but the cognition system is controlled by the regulatory system and affected by one's emotions and status.

3) Male students have higher score in collective identity, while for other identity items, the scores of female students are all higher than that of male students, and female students' relational identity is significantly higher than the male students. The identity score of exceptional children in rural areas is higher than that of exceptional children in cities. The identity score of exceptional children with congenital disabilities is lower; with the increase of age, the relational identity score becomes lower; in terms of the type of disability, exceptional children
with hearing disability have the lowest identity score, followed by limb disability and visual disability.

(4) There is no significant difference in the psychological health of exceptional children of different genders and regions, but the exceptional children with congenital disabilities have higher psychological health level than the exceptional children with acquired disabilities; moreover, younger exceptional children have certain psychological problems in adaptation.

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REFERENCES


