

## DEVELOPMENT OF ADOLESCENT INDIVIDUAL ATTENTION FOCUS ABILITIES DURING VOCAL ENSEMBLE SESSIONS

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***Abstract.** In 21<sup>st</sup> Century, music playing as an activity for attention development is one of the direction in the fast developing field of research in music pedagogy. The issue of adolescent attention focus ability development is urgent both in psychology, as well as pedagogy and specifically in music pedagogy. With the use of digital tests (VTS - Vienna Test System), adolescent attention focus ability development was determined in dynamic during vocal ensemble sessions. Upon analysing the individual adolescent results, it was concluded that development of attention focus ability was observed for the majority of adolescents who actively took part in the vocal ensemble lessons performing the include attention focus ability development exercises that were created in line with the recommendations of psychology and pedagogy scholars.*

***Keywords:** attention, focus ability, adolescents, Vienna Test System (VTS), vocal ensemble sessions, music.*

### Introduction

The term of „attention” today is often used both in psychology as well as pedagogy. In consideration of the age group specifics, adolescents have a difficulty to focus on specific activities for prolonged periods of time and perform them in a quality manner.

By considering that music playing as activity facilitates development of the said abilities a study was conducted on adolescent individual focus ability development during vocal ensemble lessons.

Research objective was to study the factors that influence adolescent individual focus ability development during vocal ensemble lessons.

The study was conducted in a comparative manner in order to approve a method for development of adolescent individual focus ability development. It is based on verities and recommendations by scholars of pedagogy and psychology, as a result of which a system of exercises was developed. Also a control sample was formed for the development of attention focus ability development of which no methods were used.

Adolescent individual attention focus abilities before and after approval of the method were determined with the use of VTS (Vienna Test System).

### Theoretical basis of the research

In 21<sup>st</sup> Century, music playing as an activity for attention development is one of the direction in the fast developing field of research in music pedagogy.

Attention by J. Kolominskis is defined by concentration and direction of person's consciousness toward reflection of internal or external (mental or physical) world (Kolominskis, 1990).

Reflection of the world in a person takes place in two levels: sentient (direct) and generalised (mediated). At the first level, reflection is ensured by sensations and perception, while in the second - thinking, speech and imagination, emotions. A. Vorobjovs emphasizes that memory and attention influence both of the aforementioned levels of reflection (Vorobjovs, 2000). Thus without memory and attention, cognitive process are impossible.

T. Komarova recognises that attention affects the quality and productivity of person's activity, acquisition of new knowledge and level of cautiousness (Komarova, 2002). Thus the scientist emphasises the verity that abilities may be developed only via activity.

Some scholars classify attention differently. For example, O. Nikiforovs believes that during one's life, as a result of learning and training, socially conditioned attention and non-mediated attention is formed (Nikiforovs, 2007).

P. Sorokuns notes that attention expresses itself in both the sensory as well as in the intellectual processes of consciousness as well as in the practical activity of a person. Thus attention is classified as follows: sensory attention, which is defined by O. Nikiforovs as sensual attention; motility attention which may be referred to as mediated attention; intellectual attention (Nikiforovs, 2007; Sorokuns, 2005).

While intellectual attention depending on attention attracting factors is divided into the three following types: involuntary or non-arbitrary - unconscious attention; voluntary - arbitrary - conscious attention; post-conscious post-arbitrary attention (Liepina, 1970; Komarova, 2002).

Apart from types of attention, A. Vorobjovs also notes that the quality content of attention is determined by such qualities as volume, fluctuation, switching, focus, persistence, distribution (Vorobjovs, 2000).

Research objective was to study the factors that influence adolescent individual focus ability development during vocal ensemble lessons.

According to W. Reulecke, attention focus is defined as a state characterised by the following 3 aspects: energy, functionality, accuracy (Reulecke, 1991).

According to V. Sturm, attention is an ability to perform an activity accurately and continuously (Sturm, 2007). Thus upon focus, an adolescent requires to continuously and determinedly regulate the invested energy to maintain alertness and perform the task quickly and accurately (Reulecke, 1991).

In consideration of age group specifics, scholars recognise that adolescent attention focus period ranges from 15 - 20 minutes (Miezite, Seile, 2002).

### **Research methodology**

The study was conducted in a comparative manner in order to approve a method for development of adolescent attention focus abilities. A total of 16 adolescents between the ages of 12 and 16 (mean age  $14,3 \pm 0,87$  years) took part in the empirical part of the study.

Initially, the study determined attention focus ability levels. All measurements were performed in PPZPI of RTTEMA. The present study employed Vienna test system (hereinafter - VTS) (Schufried, Austria), Cog test (hereinafter - Cog) for the assessment of voluntary attention persistence and focus abilities. The test consists of tasks in which participants are required to compare various more or less complex abstract line figures and make a decision whether any of the given are identical.

The task of study participants is to work as accurately and fast as possible. Task performance speed and accuracy was assessed. During the test, participants entered their answers themselves with the use of VTS universal panel and in observance of the instruction on test performance requirements.

Participants were divided in two groups: group A (hereinafter - EGA) and control group (hereinafter - KG). Each group consisted of 8 research participants.

For EGA participants, the exercise system was created for vocal ensemble session with the use of attention focus ability development exercises prepared in line with the verities and recommendations of psychology scholars and educators.

The sessions took place twice a week 45 - 50 minutes each time, a total of 10 sessions over two months. At the beginning of the session, attention attraction exercises were used, followed by voice warm-up exercises, acquisition of songs and singing along with attention focus ability development exercises.

While for KG research participants, no attention focus ability development method was employed. Research participants of the control group took part only in the initial and repeated testing.

Repeated adolescent attention focus ability assessment took place two months after the method was started to be used and both aforementioned groups took part in the test.

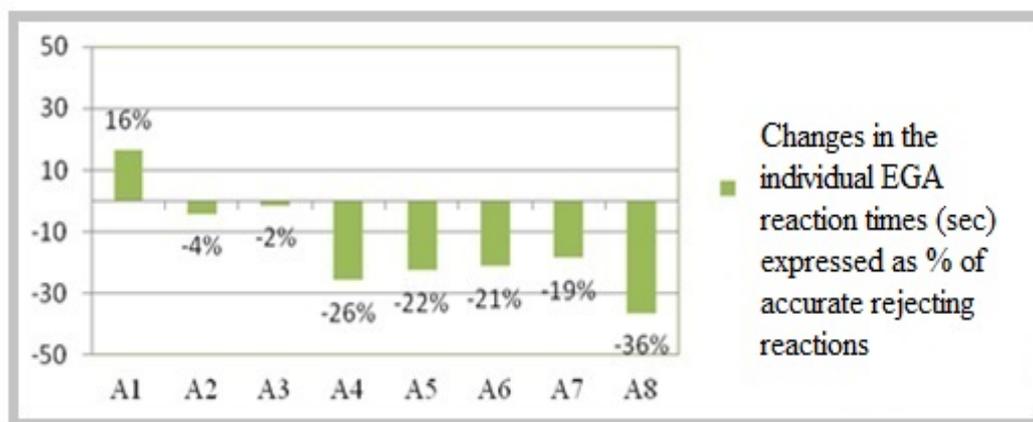
For the purposes of assessing the changes of adolescent attention focus ability in dynamic, the results from the initial and repeated testing were compared with the use of Wilcoxon Signed Ranks Test, in order to compared data prior and after the use of method in each group as well as by using SPSS 17 and Statistica Portable 8 software.

## Results

The initial Cog test result for all participants of the study found that the indicators of voluntary attention persistence and focus ability doesn't differ significantly. It indicates that during initial test (Cog test I) all research participants had a similar level of attention persistence and focus ability development.

Basic variable of the mean time in seconds of correct rejecting responses is what defines person's mean decision making reaction time in seconds and it is one of the most important parameters in Cog.

It was found that after approval of method and repeated testing (Cog test II) seven out of eight EGA participants exhibited an improved mean time of decision making response (See Figure 1). Improvements up to 36% can be observed.



**Figure 1 Changes in the individual EGA reaction times (sec) expressed as % of accurate rejecting reactions**

Upon analysing the individual basic variable results of KG participants, an improvement of up to 24% could be found for five participants, while for the remaining three the mean decision making time (sec) had increased (See Figure 2).

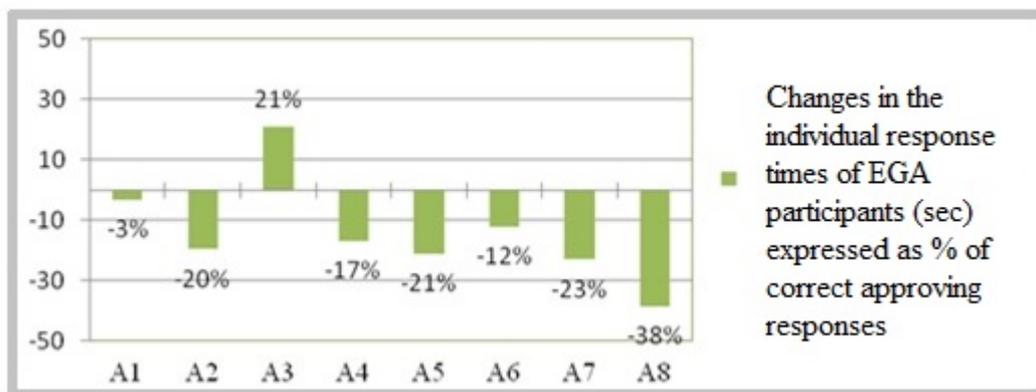


**Figure 2 Changes in the individual KG reaction times (sec) expressed as % of accurate rejecting reactions**

The comparative analysis found that the best individual results of the basic variables are observed for EGA participants who developed attention focus abilities during vocal ensemble lessons.

Cog test also has three secondary variables. One of these is the „Mean correct approving response time in seconds” - it characterises the mean response time in seconds until making of a decision.

Upon analysing the individual results of EGA participants from Figure 3, it may be concluded that for seven out of eight participants in the study, response time has decreased or the response has become faster in a range from 3% to 38% percent, but for one of the participants it became slower (See Figure 3).



**Figure 3 Changes in the individual response times of EGA participants (sec) expressed as % of correct approving responses**

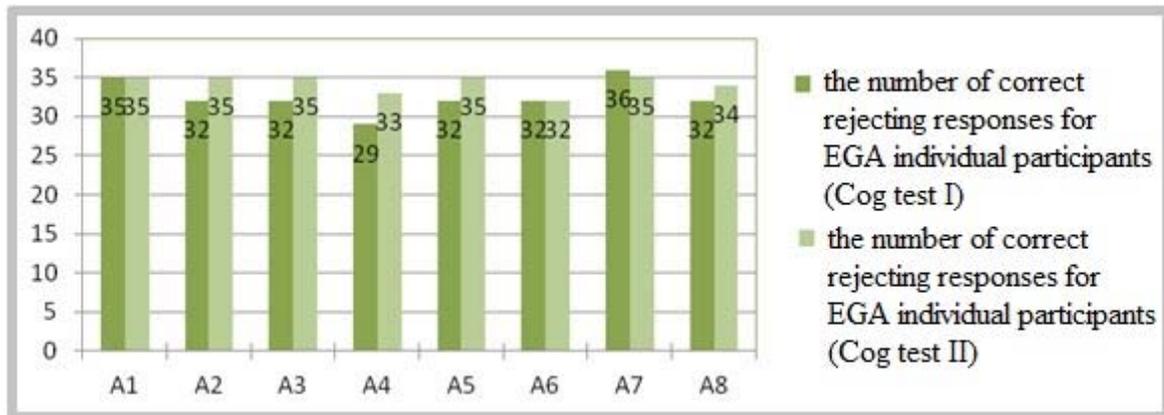
While for KG participants, the improvements were minimal. Participants C3 exhibited improvements of up to 31%, for six the improvement was up to 10%, while for participant C5 - the decision making response time had increased (See Figure 4).



**Figure 4 Changes in the individual response times of KG participants (sec) expressed as % of correct approving responses**

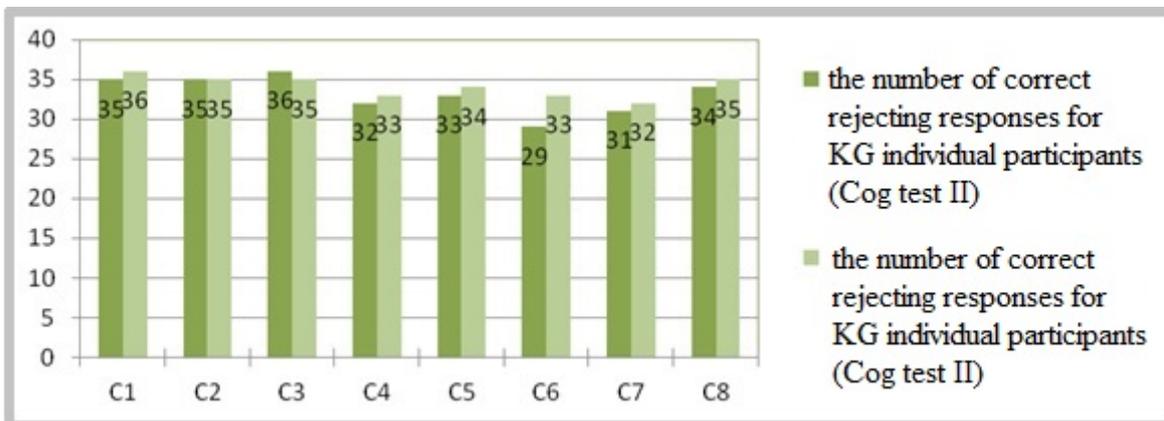
Cog test results were analysed also according to the „Number of correct rejecting responses” for each participant of the study. This variable defines the precision of task performance.

Upon analysing the summarised comparative resolute for the secondary variable in the Cog test, five EGA research participants of eight, the number of rejecting responses became higher i.e. performance of the task has improved and become more accurate. For two research participants it remained unchanged while for one research participant, the number of correct rejecting responses decreased (See Figure 5).



**Figure 5 Changes in the number of correct rejecting responses for EGA individual participants**

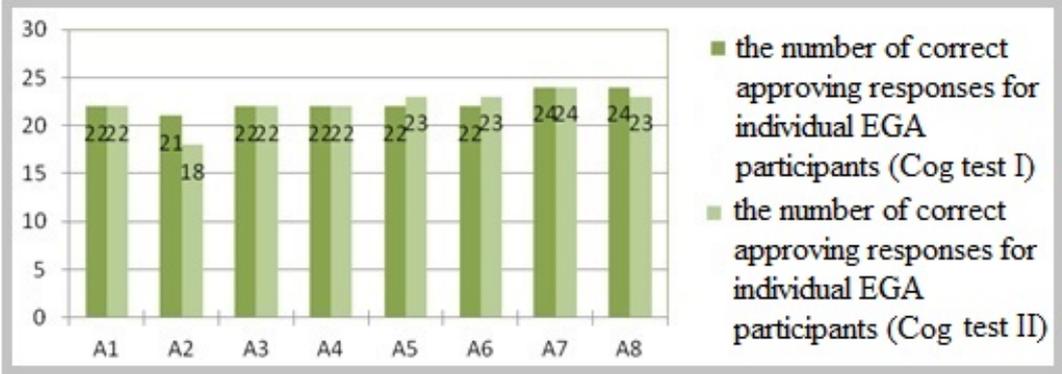
By analysing the said variable for KG participants, the repeated measurements for six participants of the study showed that the response number increased, for one - remained unchanged, while for the last one - it decreased (see Figure 6).



**Figure 6 Changes in the number of correct rejecting responses for KG individual participants**

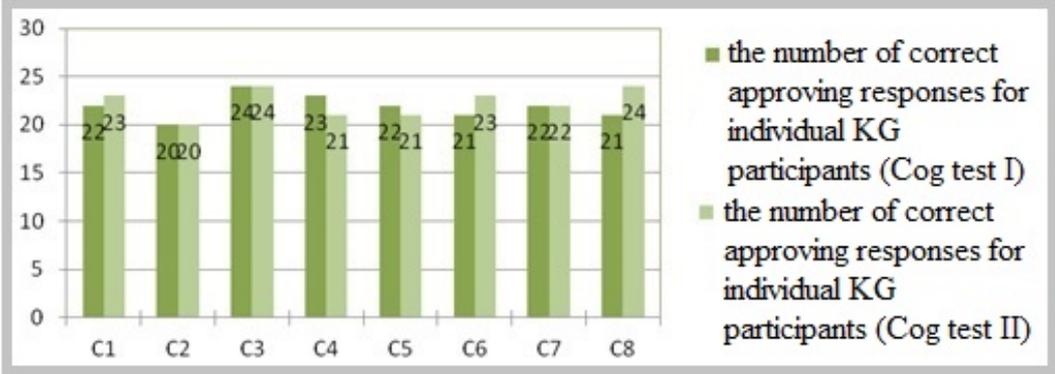
Another indicator of precision is the secondary variable - „Number of correct responses”. Upon viewing the EGA individual results, it was found that for three out of eight EGA participants, the number of approving responses increased i.e. the precision of task performance improved and become more accurate, for another three it remained unchanged, while for the remaining two

study participants, the number of correct approving responses had reduced (See Figure 7).



**Figure 7 Changes in the number of correct approving responses for individual EGA participants**

Upon analysing the above secondary variable for KG participants, it was concluded that during the repeated measurement, for three of the research participants, the amount of approving responses increased, for another three - remained the same, while for the remaining three - decreased (see Figure 8).



**Figure 8 Changes in the number of correct approving responses for individual KG participants**

At the conclusion of the study, upon analysing all four variable results from the Cog test for individual study participants, it was found that the development of adolescent individual attention focus ability is more effective for adolescents who played music during the vocal ensemble lessons. With the use of attention focus ability development tools during vocal ensemble lessons, decision making response time and task performance accuracy improves among adolescents.

## Conclusions

As a result of the empirical study, it was concluded that:

1. Adolescent individual attention focus abilities develop most effectively during playing music;
2. By incorporating the attention focus ability development exercise system in the vocal ensemble lessons, adolescents develop not only musical but also cognitive abilities such as attention.
3. The reaction time and task performance precision for adolescents in the control group (KG) in which development of attention concentration ability was not facilitated, did not develop as fast as for adolescents in the EGA group who played music during vocal ensemble lessons.

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