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APPLIED SIGNIFICANCE OF SINISTRALITY STUDY AND ITS TAKING INTO ACCOUNT IN PEDAGOGY, PSYCHOLOGY AND OTHER SCIENCES

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Last decades are distinguished by left-handers increase. Also the interest to their different-sided study is determined by so-called “left diseases” discovery as well as “left-hander syndrome”, “right” pathological conditions peculiarities in left-handers, left-handers division to real, hidden or forced, ambidexters percentage increase (their amount can be from 10 till 15% together with the one of left-handed people in the Earth separate areas in part in Iran), various attitude to left-handedness phenomenon in different countries. There are significant psychological peculiarities in people with indices in interhemispherical asymmetry individual profile by left and right type defining pedagogical approaches, moreover if to take into account foreign students ethnic belonging, their division into the groups studied Medicine in Russian and English and managing the foreign language the study is realized that defined our own investigations with following recommendations to achieve the best discovery of the students’ educational, scientific, artistic, sportive potential as well as natural and psychological adaptation.

Key words: left-handers real, hidden (forced), ambidexters, ambisinisters, foreign students, pedagogy.

There is a distinct tendency to left-handers amount increase in a modern human population. That is why the professional tests for sinistrality assessment are of crucial importance. Separate populations have their own distinguishing features. A modern world is characterized by vast human migration. Taking this into account questionnaires adaptation to people speaking various languages is essential. Iranian scientists performed the researches as a result of which there was a conclusion that

the Turkish version of Annette's Handedness Test had suitable reliability and validity according to the language and culture of the Turkish in Azerbaijan [1, p.9-16]. Handedness assessment became rather important and acquired applied aspects. Here are the examples of it taking into account other human typological aspects. Left-handed Iranian women receiving Botox for Botulinum treatment possessed worse emotions recognition (happiness, sadness and anger) comparatively to their right-handed counterparts and the disease lead to this function impairment comparatively to the healthy women group [2, p.39-50]. Iranian left-handed drivers were found to have more accidents than the right-handed ones though driving experience increasing resulted to accidents amount decrease [3, p.1-18]. Iranian left-handed children started counting from 1 to 10 with their left hand while the right-handed ones – with their right hand [4, p.157-166; 5, p.47-56]. There was a valuable difference between left-handed and right-handed pre- and elementary school students in Iran concerning to mobile objects drawing directionality with the difference between these two age groups though without handedness influence on it with making the conclusion that Persian writing had direction effect on mobile objects drawing and also had important applications in teaching the drawing and painting to Iranian children, both left- and right-handed [6, p.57-68]. Iranian left-handed students of both sexes demonstrated rumination high frequency without valuable gender varieties found and differences dependently on month of birth while their right-handed counterparts were easier to stop this bad habit [7, p.225-232]. Left-handers can suffer from autism in a complex with prozopagnozy or faces recognition disturbances [8, p.64-95; 9, p.2583-2589]. It is considered that non-clinical individuals with mixed handedness or ambidextrism obtain higher scores in schizotypy, though investigations performed in Asian countries demonstrated contradictory results particularly due to less tolerant attitudes toward left-handedness in those countries; no valuable associations were determined between mixed-handedness, schizotypy and schizotypy factors among two-gendered high school students in Tabriz (Iran) [10, p.21-27]. Trisomy 21 and Williams-Beuren's syndrome were found to be more distributed in left-handers than in right-handers [11, p.413-422]. Swedish scientists found out that left-handers possessed

such immunological patterns as B-lymphocytes, T-helpers and natural killers concentration reducing and thus had less chance to get sick in bronchial asthma [12, p.188-193]. Traumas and spine injuries were observed to be met more often in left-handed people [13, p.387-390]. Turkish dentists reported about left permanent incisors bigger traumatizing than the right ones in the adolescents [14, p.248-254]. There is a backgrounded point of view concerning to pathological asymmetry [15, p.89-93] that must be taken into account because left-handedness represents asymmetry population-species level, the most visible and comfortable for study. Left-footedness in bigger extent than left-handedness and left dominant eye usage was accompanied by difficulties in self-care in mentally retarded Iranian students and the difference between manual skills and self-care skills was more than significant in the sick than in normal students [16, p.14-21].

Following works can have interest in Pedagogy. Left-handed Iranian students were tended to risk more while entrepreneurial tasks solving comparatively to their right-handed counterparts though the second ones possessed greater entrepreneurship success seeking [17, p.63-81] and though some researches results indicated to the fact that handedness itself is not related to educational achievement in secondary school both-gendered students while studying math, religion, geography, social science, experiment sciences, history, Arabic, vocational and technical education, writing the Persian and English dictation [18, p.7-26]. English scientists dedicated many researches and printed works to so-called mirror writing that is characteristic for only left-handed people [19, p.5-13]. It is observed that left-handers can change their dominant left hand to the subdominant right one easier comparatively to the right-handers (right hand to the left one) and that it has rather unfavorable influence on health as a whole, educating, manual skills and speech [20, p.608-620]. It is important that errors amount done by left- and right-handed male and female Iranian students while lateral transfer from their dominant hand to the non-dominant one was less than while transfer from non-dominant extremity to the dominant one [21, p.117-130]. The total and verbal intelligence in Iranian graduate students were found to be more in left-handers while the practical one did not vary among left- and right-

handed examined [22, p.1-22]. Left- and right-handed students have various representations about their hands, different cognitive strategy and structure in their left and right hands, they can have problems in shapes drawing and Persian alphabet writing; it has applied significance in part in mentally retarded (with learning disabilities) and blind people. Left-handed Iranian blind girls and boys exceeded their right-handed counterparts while their dominant left hand using in bigger extent than while using the non-dominant right hand in Braille reading [23, p.34-42].

The results received by us. The students, in a big extent from Uzbekistan, possessing asymmetry right-lateral type, born at least by one left-handed parent (especially if a father was left-handed and the examined was a guy), if at least one-two indices in the interhemispherical asymmetry individual profile were by mixed type (for example both eyes and ears were developed practically equally), demonstrated significantly expressed hidden sinistrality and were people with right-hemisphere great development that was expressed in these students' behavior and study, were distinguished by memory based on images, information processing simultant way (though some of them were solving tests rather well due to information processing developed left-hemisphered way or the consequent one) as well as possessed strongly-developed intuition. Such students were distinguished by high educative and scientific potential. Some of them exhibited direct dependence between the degrees of performance in studies, activity on scientific work and amount of interhemispherical asymmetry individual profile indices by left type. It was worthy to mention that the bigger such left-typed indices quantity was, the higher academic performance degrees, bigger printed works amount and reports at the conferences were, though the last activity type was correlated by the students' temperament type because such an activity was performed the best and with the biggest pleasure by sanguinics and melancholics, more seldom choleric and has been never done by phlegmatics. Also the indexes by left type determined high amateur art and performance as well as success in some sports (boxing, wrestling, tennis).

These students did not possess the skills of marking the main while preparing to the classes as well as during practical lessons and lectures. Also they had writing lower

velocity than the ones of right-lateral type especially if they were from Arabic countries. We were teaching them to mark the main in their copy-books. They had more retarded reaction time especially real left-handers born by both left-handers, the students at bigger amount of left-typed indices in their interhemispherical asymmetry profile, ambidexes (ambidexters) who “does not know which hemisphere to choose in a concrete situation for one or another task set solving”. We were giving more time for answers to such students. Dominant right hemisphere with absent ability to analyze, to split, absent successive (consequent) thinking involved in a process of one or some correct answers choosing during tests and tests tasks solving required corrections in left-handed students assessment as well as the ones with left-typed indexes in their interhemispherical asymmetry individual profile and they were made with the accents and priority replacement to assessing the oral answers as well as other activity types except the tests solving while belonging the last one to the control additional type. We recommend performing only educating tests at the first lessons. It should be so particularly in the groups with weak academic performance, with additional tests explaining and discussing to the students with bad marks as well as to the ones with laterality indexes by left type while providing maximally individualized approach at educating the left-handers real, hidden or forced, ambidexters and ambisinisters. Ambidexters have good development both of right and left hand (in part at writing) while ambisinisters can not write well either with right or left hand. Such ambisinisters were met among Arabic students. Such a people contingent had Russian bad managing.

Hidden or forced sinisters should be dexters but they used their left hand because of right hand or left hemisphere damage. They developed left type of laterality indices of interhemispherical asymmetry individual profile sometimes in rather big extent. So-called unreal sinisters should be sinisters but they used their right hand as a dominant while writing because of their left hand or right hemisphere disorder due to disease or trauma. Their indices in asymmetry profile demonstrated right type prevailing. We met such left-handed students who added their right hand using