Intercultural Adaptation of Students in the Information Field of Cross-Cultural Interaction

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Abstract

The article reviews the complexity, variability, ambiguity and interdisciplinarily of the intercultural adaptation of students while in cross-cultural interaction. Bearing universal traits, the pedagogical approach to this phenomenon deals with a variety of mechanisms to facilitate the alignment of the relations between the present and the future, finds ways to improve flexibility and tolerance for different cultures, to define trajectories for the use of linguistic resources in specific speech situations of intercultural communication, as well as to establish dynamic relationships between a personality and the surrounding reality. Different characteristic features, properties, strategies, conceptual models and functions of the phenomenon discovered are described there. Intercultural adaptation – regarded as the process of merging into personal cultural environment, inherently developing and absorbing its values, principles, standards, norms and behavior patterns – results in the individual's adaptability to a certain degree. A new vision of the preliminary stage of adaptation is offered. A special attention is paid to the information field which proves to be an efficient means of students' intercultural adaptability formation.

Keywords: Intercultural adaptation; Cross-cultural interaction; Adaptability; Information field; Preliminary stage of adaptation

Introduction

Under today's circumstances, when foreign economic relations tend to strengthen and develop, international educational programs are implemented within the framework of international cooperation and in accordance with the Bologna Declaration, adaptation of students in foreign cultural environment remains an actual problem. Having a global scale, the pedagogical scientific vision of this phenomenon involves finding a variety of mechanisms to facilitate the alignment of the relations between the present and the future, creating flexibility and tolerance for different cultures, developing strategies for the use of linguistic resources in specific speech situations of intercultural communication, as well as establishing dynamic relationships in the system of personality - the surrounding reality.

The successful formation of a person depends on the ability to adequately self-assess and appraise their activities. To work successfully in constantly changing conjunctures, it is not sufficient just to have acquired knowledge and skills to suit better the requirements of modern society; there is an urgent need to update education systematically. The process of reflection is

uninterrupted, and for some, the natural consequence of their practical work that requires more and more knowledge leads to the renewal and enrichment of their professional education.

That is why today we are talking more not about qualified but competent specialists who are ready, and that's very important, are able to maintain their professionalism at a high efficiency, promptly, and adequately while flexibly replenishing emerging gaps, including means of the international educational contacts in a cross-cultural interaction.

It is so logical that the process of training in high school now is based on more independent, close to the research activities of the student, and the main focus becomes the development of a whole range of competencies. Considerable importance is attached to the development of the student's ability to quickly adapt to the changing conditions of the surrounding reality in the social, psychological, cultural and educational aspects, building up their needs in accordance with constantly updated requirements for competitive specialists. Cross-cultural adaptation is becoming a key to the successful achievement of these requirements because it gives ample opportunity for self-development, and cognitive,

speech, and mental activity growth, in addition to allowing the maintenance of psychological health and emotive stability in cross-cultural interaction. At the same time, the information field that has no cultural and geographical boundaries is both a means of developing and actualizing intercultural adaptation, representing a global dynamic exchange channel of knowledge, experiences, ideas and strategies for solving different problematic situations in a multicultural identity.

Methods

For the purposes of this study, theoretical and empirical pedagogical methods have been used.

Because of the complexity, ambiguity and the lack of an optimal unified definition of the phenomenon of "cross-cultural adaptation", a content analysis of the sociological, philosophical, psychological and pedagogical literature on the issue has been conducted. This has allowed structuring of the revealed relationships and interconnections of the process of students' adaptation, and determining its functional dependence and causality in the theory of education. In addition, a comparative analysis has been applied, along with the ranking and generalization of the detected theoretical positions and concepts for further synthesis of a holistic notion of "intercultural adaptation" in the information field of cross-cultural interaction.

The study has involved bachelors enrolled in the various areas of training: economic, engineering, architecture and construction, transport, aerospace. In total, more than 770 students from different regions, areas and provinces of Russia (56% of total respondents), Kazakhstan (18%), Finland (2%), Spain (3%), Italy (2%), France (1%), India (7%), China (5%), the US (1%) and North and Central Africa (5%) participated.

Computer mediated cross-cultural interaction has been carried out in the information field of the MOODLE system on the Orenburg State University portal and on the COURSERA educational platform, with open remote access to a variety of Massive Open Online Courses. Gender and age characteristics have not been taken into account, while the cultural and ethnic identities of the students have been of secondary importance.

Among the empirical methods that have been processed using mathematical statistics, there have been used different types of observation (direct and indirect; continuous and discrete; with the fixation of social behavior, psychological state, reactions and foreign language communicative activity; open and secret), and questionnaire methods (conversation, discussion, questioning and interviewing) and testing with the registration of the data in the form of reports, minutes and video records.

Results and Discussion

The term "adaptation", first introduced in medicine and psychology in the 1880s by Professor Aubert, refers to the ability of a living organism to adapt to changing environmental conditions. This ability is universal and characteristic of all living things, as a function of self-preservation is involved with a gradual "addiction", adaptability to new conditions of existence. The level of adaptation in the broadest sense can be expressed

in resistance: the lower the resistance, the greater adaptability, and, accordingly, the greater the possibility to continue life in the changed reality and vice versa. Systems with complex organizations are distinguished by the presence of not only physiological, but also of psychological aspects of adaptation.

There are open and closed adaptation strategies traditionally accepted. Open (or compensation) adaptation is characterized by a kind of individual isolation and counteraction processes, compensation, balancing and neutralization. Modification (closed) strategy of adaptation is the transformation of the nature of external stimuli into the natural environment of the object through the processes of assimilation, mediation, entering, familiarization and accustoming. These types of strategies can be realized not only at the level of the organism, but are also evident in the behavior of the individual and the whole group, where the most optimum adaptation occurs in a balanced combination of these strategies [1].

The process of adaptation is a two-sided direction: a person can not only "self-adjust" to the particular circumstances and the new environment, but also has a significant impact on these very surroundings, adapting it to their needs and requirements [2]. However, many scholars have pointed out the leading role of an individual or a group as an adaptable system, which being stipulated by the immanence of self-control and the ability of self-movement and transformation, activate levers of administration, influence and control, modeling patterns of partial changes or complete transformation of the surrounding space and neutralization of external aggressive factors.

At the junction of the sociology and psychology borders, adaptation is viewed as a longitudinal process of inclusion, participation, immersion of the individual (or group) to an active (or passive) interaction with the social environment in which the orientation takes place. Related problems and their solutions are defined, and a selection is made regarding future activities, relevant and adequate to the current situation in order to achieve balance between the environment and the person's interests, abilities and needs [3].

In modern science much attention is also paid to studying the problems of socio-cultural adaptation, which is interpreted as "the process and the result of an active adaptation of ethnic groups (and individuals - their representatives) to the conditions of other social and cultural environment" [4]. The author emphasizes synonymy of definitions of "intercultural" and "cross-cultural" adaptation.

Mnatsakanyan has slightly different opinion. Based on the research of Thomas and Znanetsky, as well as on modern definitions of adaptation, methodology, achievements of the latest theories, and concepts in the field of sociology and educational psychology, she believes that cross-cultural adaptation is a form of social adaptation [5]. Foreign interdisciplinary studies of the adaptation phenomenon in general and cross-cultural adaptation in particular, have been carried out since the end of the XIX century by such scholars as: White W, Thomas W, Znanetsky F (1918), Redfield R, Linton R, Herskovitz M (1930), Oberg K, Pearson D (1960), David KH (1976), Bennett Milton BA, Burnham A, Bochner

S, Furnham A, Torbiorn I (1986), Moghaddam FM, Taylor DM, Wright SC (1993), Triandis HC, Berry JW (1997), Poortiga YH, Segall MH, Dasen PR (2003), et al.

It is worth noting that the concept of intercultural (or cross-cultural) adaptation for the East European science is a relatively new concept and has become the object of research recently. Among the scientists who cover this issue are Stefanenko TG, Wittenberg EV, Abulkhanova-Slavskaya KA, Lebedeva NM, Tatarko AN, Soldatova GU, Gritsenko VV, Khrustaliov NS, Mnatsakanyan IA, Krysko VG, et al. Intercultural adaptation process in cross-cultural interaction has been studied by Drobizheva LM, Klyuchnikova LV (Miller LV), Stefanenko TG, Streltsova VY, Maksymchuk ED, Chernikova SV, et al. Key aspects of complex application of linguistic resources in a cross-cultural interaction and intercultural adaptation process are presented in the works by Ter-Minasova SG, BogdanoVVv, Yankina NV, Sorokin Y, Solomatin TB, Wezhbitska A, Susov IP, et al. Cross-cultural adaptation is described as the process of an individual (or group) entering the cultural environment, followed by successive development and adoption of its values, principles, norms and behaviors [6]. The author notes that the true, successful adaptation stands for the achievement of maximum social and psychological integration with a new culture, while retaining all the originality, authenticity and richness of its own. N. Itunina shares a similar opinion. She determines intercultural adaptation in a broad sense as a complex process, which results, in the case of its successful completion, in a full (or partial) compatibility of the individual with a new culture and social environment, as well as the identification of other cultures with their own traditions and the continuation of life in accordance with them [1]. In addition, she highlights the accompanying adaptation dilemma of preserving one's own cultural originality and identity, as opposed to mastering the rules and standards of living of the contacting side.

As a result of cross-cultural adaptation, the individual stays in a state of satisfaction, is mentally healthy and aware of the personal and cultural identity, participates fully in social and cultural activities of the new group, and is able to communicate effectively with a variety of ethnic groups and their individual representatives [7]. It should be emphasized that many researchers have a similar point of view on the main way of cross-cultural adaptation, which consists in the development, adoption, assimilation of norms, standards, values, principles and way of life of an alien social and cultural environment, including object-oriented activity [8,9].

However, if we talk about the properties intrinsic to the phenomenon of cross-cultural adaptation, there are quite a number of controversial, contentious issues within the various concepts and theoretical approaches. Again, cross-cultural adaptation is a kind of socio-cultural adaptation, which, in turn, is a form of social adaptation. This means that in a cross-cultural interaction of students, intercultural and social adaptation have similar attributive traits and characteristics. Cross-cultural adaptation is considered from the standpoint of enigma, complexity, variability, and is not limited only to the capacity of a mere adjustment. It occurs simultaneously: the process of an individual taking a certain social role, including the adoption and internalization of norms and values, as well as the conditions of existence of this role in society (role concept); giving reflection, feedback and manifestation of an individual's response to the effects of external factors (the theory of behaviorism); from the perspective of humanitarian concepts, this is also a complex system of multiple interactions of an individual and the environment; the connection and correlation between the newly acquired information and previous experience from training, education and life (cognitive concept, information field theory) [10]; a person's ability to make contact and cooperation to find solutions to the problems and difficulties encountered, as well as for protection against aggressive environments (interactionism theory) [11].

Considering the above conceptual approaches, it is worth focusing once again on the interdisciplinarily of the phenomenon of cross-cultural adaptation [12], which includes the preservation of identity, authenticity, psychological health and positive emotional state of a person, along with their acquisition of the necessary knowledge and skills (in cross-cultural cooperation in the conditions of the educational environment, or in the information field) for the successful continuation of life in the new social and cultural environment, as well as fulfilling everyday tasks. Thus, intercultural adaptation is a subject for study in psychology, sociology and education science. Being a relatively progressive process in terms of time, which practically acts as an axiom in the category of temporality, many researchers assume that adaptation has some stages, steps or phases through which a person moves in the foreign cultural environment. The most widely spread among ethno-psychologists and ethno-sociologists is so-called "Model of U-shaped curve" adaptation by Norwegian scientist Lisgaard, which consists of 5 steps and, although is not the norm for each particular situation, however, is fairly typical for the majority of cases [13]. This model in a simplified form can be represented as a downwardly-upward sequence: "good-worse-bad-better-good". According to Stefanenko, these stages of adaptation are as follows [6]:

1. The state of satisfaction, positive mood, there are goals and aspirations, confidence, optimism, and a certain degree of emotional "euphoria" -the so-called stage of "honeymoon".

2. The cultural environment is beginning to manifest itself in aggressive actions, causing negative feelings of anxiety, frustration, insecurity, and depression- the symptoms of so-called "culture shock."

3. The crucial point, "bottom", when the state of "culture shock" reaches a critical value, which may cause mental illness, or even physiological one. At this stage, there is a high probability of a person's refusing of a new cultural environment and returning back to their native customary conditions.

4. The negative emotional and mental state of the individual is being gradually neutralized by awareness of capabilities, demands, and acceptability of the need for social and cultural adaptation and integration, including a reasoned study of the host culture, its language, traditions, customs, attitudes, patterns and norms. It is the recovery period.

5. The state of satisfaction when the individual is mentally healthy, aware of the personal and cultural identity, i.e.,

ideally- full compliance of a person and cultural environment. A man takes a full part in social and cultural activities of the new group, and is able to effectively communicate with its various members.

Later Lisgaard has offered "W-curve Model", which first describes the adaptation process in another ethnic culture, and then rehabilitation in the native one, which is also characterized by a new wave of disorientation, depression and recovery period.

In terms of temporal and longitudinal adapting, this model is divided into short-term, which lasts at least 2 years and is accompanied, as a rule, by the preservation of its own ethnic and cultural identity and at the same time by the acquisition of the primary socio-cultural relations in the new environment as well as long-term, which is more than 2 years and contributes to a more productive cross-cultural interaction and to the increase of social contacts and activities [14]. It should be noted that the results of the research of psychologists and sociologists prove the level of adaptation of the person does not correlate linearly with time. In addition, there are a number of models and strategies of (intercultural) adaptation provided under the different conceptual approaches. For example, David, Bochner, and Furnham proceed from the position that the adaptation is a natural process of learning something new, received in a different culture. Two tendencies are in the field of communication and in the field of social behavior. The first direction considers intercultural adaptation in terms of developing students' speech activity and intercultural communication for the purpose of successful communication in another ethnic environment, and the second one focuses on the training of behavior patterns characteristic to the norms, traditions and cultural situation [15]. The concept by B. A. Milton Bennett, based on the principle of psychological dissonance, reviews the effectiveness and success of cross-cultural adaptation in the prism of outcome in the acquisition of a number of new skills and stereotyped patterns of behavior; in implementing adequate, relevant interpretation and response to the behavior of cross-cultural interaction [16].

Torbiorn, within his homeostatic model, marks the dynamics, consistency, and the cyclical reduction of the psychological and emotional stress in the process of cross-cultural adaptation, during which the individual, to the best of their own socio-cultural competence, self-assesses the current situation in the system of interactions "personality -a new environment" and seeks to achieve the level of internal satisfaction (balance with the environment) [13].

The most successful, in our opinion, is a model of adaptation, proposed by Melnikova, where like Stefanenko there are also distinguished 5 stages, but which, in fact, is a "universal matrix" used to describe any kind of adaptation process, including intercultural within a cross-cultural interaction [17].

6. In the first stage there is some disorientation in the changed environment revealed. Initial reaction of an individual in the activity aspect can be manifested in spontaneous behavior, rather than in a focused activity, while the emotional background indicates an imbalance in the system "man-environment". At this stage, there is the need for change, as well as the foundation for further cooperation is established.

7. In the second stage there is orientation in the new environment expected to facilitate the acquisition of new knowledge and skills in order to find a way out of this problematic situation.

8. The third stage is characterized by a redistribution of value orientations of the individual and the modification of internal reflection, which leads to the problem of selecting appropriate strategies and patterns of behavior and complex language means to be filled in with the instruments used in the implementation of an effective cross-cultural interaction.

9. The fourth stage is the beginning of the "ascent" and "mobilization" of internal resources and capabilities of an individual, as well as the increasing of activities aimed at reconstruction and changes in their socio-cultural, psychological, emotional, intellectual and other spheres.

10. In the final stage, cross-cultural interaction is characterized by high productivity and efficiency, and the status of an individual is distinguished by different inner poise, comfort, stability, balance of emotional tension, mental health, complete (ideally) adaptability, optimism and a positive attitude to the reality and members of the new society.

It should, however, be clarified that, firstly, distinct phases and all of the above steps are not necessarily presented in the actual process of cross-cultural adaptation and, secondly, there is no guarantee of the achievement of the presumed positive effects which are conventionally idealized in the theoretical models. This is also mentioned in the works on psychology, by Lebedeva: "Adaptation may or may not lead to the mutual satisfaction of individuals and the environment; it may include not only the adjustment, but also resistance, and attempt to change their environment or change mutually" [18].

Some scientists, concerned with adaptation, allocate the additional step having "0" number, which alleges training and "remote" acquaintance with the cultural environment, as well as awareness of the new requirements, and the conditions imposed on a person that can lead to an understanding of the consequences of certain actions, reactions, and interactions. This step may be of considerable interest for education science, slightly more than for the other related social and humanitarian disciplines. Therefore, in our opinion, it would be appropriate to characterize it conventionally as the "training stage", which opens and actualizes: functioning regularities of cross-cultural interaction, manifested in consciousness, behavioral reactions, intersubjective relations; diversification and comparison of specific features of education and training in different cultures; conditions of formation and development of an individual in another ethnic environment; the problem of increasing of the cultural level, and of the transmission of traditions and national customs, as well as the corresponding system of its values.

In addition, we believe that it is at the zero stage in the information field of cross-cultural interaction where the prerequisites to

achieve a certain degree (or level) of a personality's adaptation are established, when all subsequent stages of intercultural adaptation or its critical points are in a "relaxed" form, more "smooth" and less "painful" because a person has at least some theoretical ideas about possible future difficulties, problems, and ways to overcome the metamorphoses and obstacles, and about how to preserve mental and psychological balance, etc. [19].

The information field in terms of cross-cultural interaction is understood by us as the intersection, a cross-section inherent to every individual's "areas" of knowledge, skills, acquired personal experience, that occurs in certain specified (educational) framework and forms a communication channel within the educational space (or out of it, in different kinds of social activity of students) that, firstly, coordinates the achievement of certain, clearly defined goals, tasks and problem solving, which in turn requires the activation and mobilization of mental activity and psychological and emotive stability; secondly, it implements the mutual exchange of a substantial component of the "open" areas of the students' field and enriches the individual spheres of interaction of the participants. Here, the initial state of the field can be known, the final is determined by educational conditions and, in fact, by the objectives, while the algorithm of interaction within the field often bears a predictable and diagnosed effect, not excluding, at the same time, the element of spontaneity and unpredictability. The information (education) field unveils vectors of "mutually-directed efforts" and comprises in itself the process of two-way exchange of information, knowledge and experience. In practice, the of use of interactive techniques, such as: brainstorming, various business and role-playing games, discussions and debates, case-study, project method, insight and holographic techniques intensify training and activate speech activity. Particularly relevant in didactics today are the latest achievements in the sphere of electronic (distance) educational environment and of the information field - Moodle, Web 2.0, MOOCs (Massive Open Online Courses).

The empirical research had the following steps.

The first stage being the ascertaining experiment was aimed to discover the peculiarities of intercultural adaptation of students in regard to their educational and professional self-concept and learning activities. Based on the praximetric methods and using the qualitative analysis, the differentiation between the professional cognitive component of educational self-concept and intercultural adaptation was found (z = 3.6; 3.3; 3.1; where relevant difference is α = 0.01). Students with high intercultural adaptation level (IAL) demonstrate active position in learning process. They possess multifarious ideas of themselves as of a professional because they are oriented to accept their future social roles and to reflect their personal features and qualities on to the image of a future specialist. Average intercultural adaptation students show moderate learning activities having vague physical shape of a future expert in the professional sphere. The respondents with low IAL specify rather abstract future impression of themselves concerning their current tuition. Also, weak and passive learning activities were registered here.

This correlation was also proved statistically by the Pearson coefficient: r = 0.807; ρ 0.05; r = 0.805; $\rho \le 0.01$; r = 0.731; ρ

0.05. This means that the higher students' educational and professional self-concept and learning activities are, the better their adaptability in cross-cultural interaction is. Thereby, to succeed in different phases of professional self-realization, students with high IAL are ready to socialize actively; to contact people (faculty members, other students, staff); to acquire skills of communication and interactions with representatives of foreign culture and ethnic groups; to master language and improve efficiently their speech activity. Low and average IAL students are less adjustable for new cultural and social conditions.

"Index of Tolerance" questionnaire by Soldatova and Kravtsova et al. was used to identify the level of ethnic tolerance (ETL)-component inherent to intercultural adaptation, which is of utmost importance because it affects the core ability to adapt. Quantitative analysis witnessed 78% of participants to have intermediate and high ETLs. These data encourage to successfully form the positive attitude towards the majority of nations and ethnic groups among such students, thus, preparing them for productive cross-cultural interaction and increasing their IAL.

The method of Phinney's multi-ethnic identities scale, measuring the manifestation of its cognitive and affective components, helped to detect 17% of average and 46% of high ethnic identity levels (EIL), which suggests positive relations between the image of one's own ethnic group and values of foreign societies. At the same time, the Kogut and Singh equation was used to determine the cultural distance between each side participating in the experiment:

$$CD_j = \sum_{i=1}^{4} \frac{\left\{ \frac{\left(I_{ij} - I_{iu}\right)^2}{V_i} \right\}}{4}$$

(1)

Here, CD_j (cultural distance) is the deviation of cultural distance of I_{ij} (required country) from I_{iu} (country of origin) for V_i (variance) for the ith (Hofstede's cultural dimension). The results are represented in Table 1.

Spearman rank correlation defined direct relations between ETL and EIL (r_s = 0.53) and negative relations between ETL and ethnic hyper-identity (EHI) indices (r_s = -0.34). Thus, EIL significantly influences the display of ethnic tolerance/intolerance: the higher EIL is, the less tolerant adjustment of a person is. Likewise, positive correlation between cultural shock and CD_j was determined (r_s = 0.43) proving that the higher cultural shock is, the higher CD_j appears. The data obtained confirmed the assumption that IAL evinces the dynamics depending on ETL and EIL changes, accompanied by emotional expressions of cultural shock and the level of CD_j towards foreigners.

Table 1: Mean cultural distance indices of experiment participants towards each other

State of origin	Russia	The CIS	The EU	India	China	The US	Africa
Russia	-	-1.08	0.46	0.74	0.73	0.38	0.84
The CIS	-1.21	-	0.35	0.71	0.68	0.59	0.81
The EU	0.43	0.79	-	0.77	0.72	0.18	0.79
India	0.73	0.82	0.69	-	0.24	0.66	0.86
China	0.33	0.67	0.61	0.39	-	0.53	0.84
The US	0.73	0.77	0.45	0.82	0.78	-	0.63
Africa	0.89	0.96	0.67	0.80	0.84	0.48	-

The second stage-the forming experiment -included the formation and development of students IAL in the information field during cross-cultural interactions carried out under certain psychological and educational conditions, based on the peculiar learning activities in which students were involved during tuition. On one hand it was aimed to stimulate professional aspect concerning cognitive activities, on the other- to intensify the adaptive aspect. Cognitive, emotional and behavioral criteria and their interconnections were considered.

This program comprised 4 steps: 1) formation of cognitive component; 2) formation of emotional and axiological component; 3) formation of conative component; 4) integrated formation and further development of all these components.

The independent variable here was a complex of psychological and educational conditions to low down the level of disadaptation. For that purpose, it was necessary to form the system of values and axiological orientations; to reduce the level of anxiety, to increase self-confidence and to eliminate personal reactions on problems appearing while cross-cultural interactions; to achieve personal growth, to realize one's own difficulties and to find means to overcome them; to develop ability for self-analysis and self-cognition. The dependent variable was the specific features of personal IAL, ETL, EIL, CD_j and students' self-concept and learning activity. The preliminary diagnostics showed no relevant discrepancy between experimental (EG) and control (CG) groups (50 participants in each) on any parameters and methods. The majority of students had average IAL (43%), average or higher ETL (14% and 47% resp.) and moderate EIL (45%), not excluding insignificant amount of EHI respondents (<1%). They consider their ability for intercultural adaptation to be rather high, experiencing no severity in foreign environment, yet not always having active position in the interpersonal contacts. The Mann-Whitney U-test, using the formula presented, also found no essential differences in IAL of EG and CG students (U_{emp} = 19 U_{crit}).

$$U_{emp} = n_1 n_2 + \frac{n_x(n_x + 1)}{2} - T_x \qquad (2)$$

Analysis of output date after the forming experiment witnessed

the increment of amount of EG students with high IAL compared to the initial indicators (z = 1.75; ρ ≤ 0.05) and quantity of high

IAL students was significantly more than that in CG (z = 1.78; ρ ≤ 0.05), calculated with the Fisher z-(angular)-transformation method. The dynamics of the IAL development of EG students before and after the experimental program of cross-cultural interaction in the informational field (which was accompanied with socio-cultural instructions, acquiring of communicative skills and development of foreign language competencies, self-cognition and regulation) is represented in Figure 1.

The positive shift was also registered in ETL and EIL of EG students sensitively to the IAL changes. The results are presented in Figure 2, demonstrating, at the same time, a peculiar property of EIL which tends to be more or less stable and is not much amenable to abrupt alterations under the external factors. This is explained by the fact that EIL is especially individual and depends on student's personal characteristics, subject to change rather slowly in a long period of time (Figure 2). The findings of the investigation statistics, as well as our practical experience as tutors and consultants for students, demonstrates that participation in the Massive Open Online Courses – implemented, in particular, on the educational platform COURSERA – significantly activates the cognitive and creative activity of students, not to mention increasing speech activity. Students discuss various problems from their personal point of view, leaving the "communication fears" beyond the information field, offline, which often leads to parity dialogue and multiple interactions of cross-cultural nature with international participants via the Internet. At the same time, students prepare "in the field" an independent written work fulfilled quite individually, such as: publishing a blog or an article in a scientific journal or conference.

All students were recommended to participate at least in two MOOCs on COURSERA. These are "Learning How to Learn: Powerful mental tools to help you master tough subjects" by Dr. Barbara Oakley and Dr. Terrence Sejnowski, the University of California, San Diego and "Introduction to Communication Science" by Dr. Rutger de Graaf, the University of Amsterdam. Besides every student was allowed to freely enter any course to their interest and specialization, but the two offered turned out to be the most popular among the respondents involved in the experimental part (78% and 61% resp.), thus, providing the main source of output data. Comparing the results of cognitive, emotional, axiological and behavioral components formation
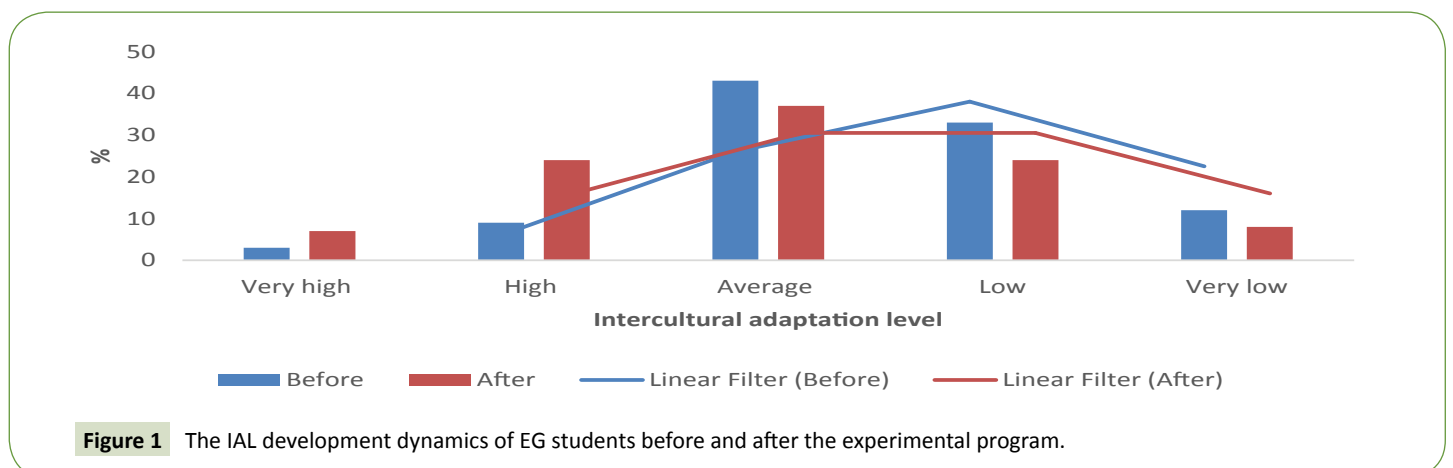

Figure 1 The IAL development dynamics of EG students before and after the experimental program.

and development of EG students with CG, a clear statistically significant difference on practically all criteria and parameters is observed. The obtained indices of the Fisher z-transformation and Mann-Whitney U-test of EG students are presented in Table 2.

In addition, we found that the process of creating an individual educational module for students itself is an important and highly effective form of cross-cultural interaction in the information field, which in an inherently wide range develops scientific logic, critical thinking, and creativity, and stimulates both educational and professional motivation of students. A useful means in this respect are the online tools and publicly available Internet services, powered for free by different laboratories and companies. These include, but are not limited to (due to their enormous flexibility and infinite possibilities for creativity) developing a PowerPoint presentation, web-site, Wiki article, Pinterest board, video, PC game, mp3 song, YouTube video, blog or series of individual posts in the Live Journal, Facebook, Myspace or VK page, and an illustration or animation with "share" function among MOOC participants or for specific and targeted / or personal needs with further discussion, debate, evaluation, review, edit, etc. Influence of a tutor in such cases should be kept to a minimum, and the interaction of the subjects of education limited to, preferably, advice and / or side (but not indifferent) supervision, while the student specifies the choice, searches and analyzes the literature, and comes to some conclusions and opinions [20].

Including internet technology in the information (education) field in cross-cultural interaction in the classroom, one needs a clear idea of what is advisable for such a powerful tool. Some appropriate applications are: online (as well as offline) integration of materials and information of a global network to the content of classes, independent research and information selection by students in the framework of the project in various modes, filling up emerging gaps in knowledge, carrying out acts of intercultural communication, and implementing of educational contacts with the cultural environment mediated through Media and Internet dialogue [21]. Bringing network information and resources into the content of practical classes, the teacher actualizes the situational modernity of world community life, involves active collaborative cognitive research and scientific and creative activities, develops curiosity, skills, critical thinking and creativity, as well as contributes to the formation of cross-cultural adaptation and the achievement of its productive level.

Figure 3 presents the ratio of cognitive, emotional and axiological, conative and integrative components of high IAL students after the experimental program. The connections between these components were also proved statistically by the Pearson correlation coefficient (Figure 3).

It is important that at the preliminary (training) stage of intercultural adaptation in the information field, it is obligatory to pay due attention to the development and formation of related and complementary components, which are amenable to pedagogical influence. Some are: intercultural tolerance, cultural awareness, multi-ethnic competence, linguistic communicative competence, axiological position and orientation, knowledge-system, the willingness of the subject of education for effective cross-cultural interaction and others. Productivity of the interaction here stands for "the successful and potential" opportunistic power of the "integrative system" of the interaction itself as a category – cross-directed vectors of mutual influence that maximize individual psychological, social, cultural, speech and other possible types
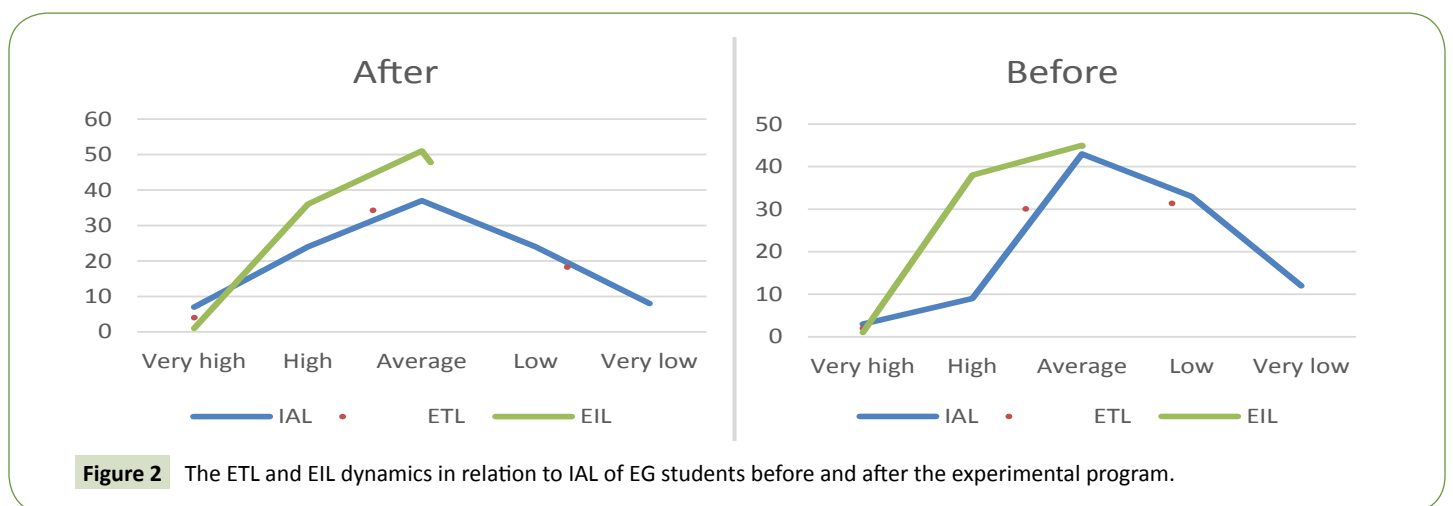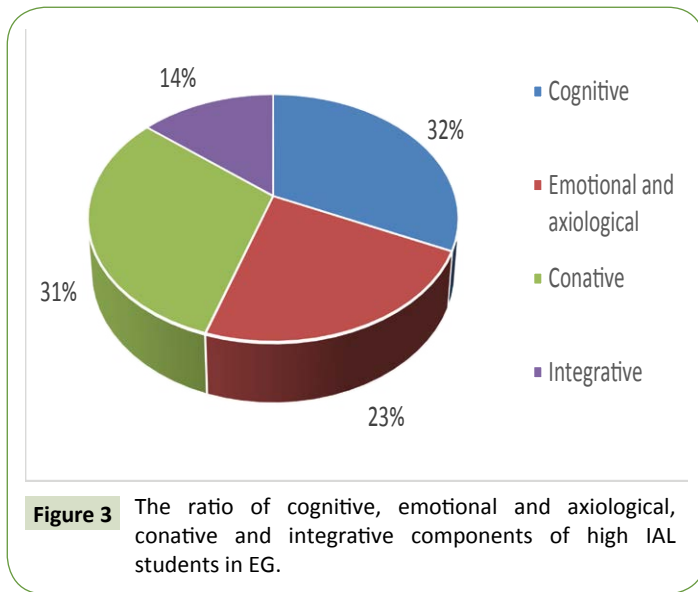

Figure 2 The ETL and EIL dynamics in relation to IAL of EG students before and after the experimental program.

Table 2: Mean indices of the Fisher z-transformation and Mann-Whitney U-test of EG students with high IAL, $\rho \leq 0.01$

Cognitive component		Emotional and axiological component		Conative (behavioral) component			
Specialist self-image	Subjective position	Self-esteem	Self-relation as to the future specialist	Professional and personal self-realization	Active professional and personal position	Learning activity	Professional planning
2.32; 2.07; 2.43; 2.05; 2.33	2.37	2.33	$U_{emp} = 5$; 1.69; 1.88	2.43	1.81	1.69	2.32

Figure 3 The ratio of cognitive, emotional and axiological, conative and integrative components of high IAL students in EG.

Conclusions

The study suggests the concrete result of cross-cultural adaptation - "adaptability" of an individual in varying degrees is understood as the current status of the subject in terms of synchrony, allowing a person to feel confident and free in the new socio-cultural environment, to take active, (ideally) internally-motivated participation in the core activities, to have moderate sensitivity to changes in various spheres of life of the new society and the environment, and to strive for intellectual self-development and cultural enrichment of their own inner world in the real cross-cultural interaction.

Resulting indicators of the intercultural adaptation in the information field, which are amenable to ranking and grading are: subjectively-satisfaction with the new social role of an individual and their own position and the position in society and space of other cultures, as well as relevantly free orientation in it; conscious (internally motivated) compliance with the new requirements, standards, principles, traditions of social and cultural environment; confidence and lack of frustration, anxiety, depression and other negative emotions and experiences; readiness, "openness", desire and ability to productive cross-cultural interaction and full participation in the social and cultural activities of the new community. The objective indicators are: increase of the creativity of a person and their activity; filling up of structural componential characteristics of students' activities and their knowledge system with the new content enriched in the new socio-cultural conditions; improving foreign language competence and skills for the use of the complex of linguistic resources; developing communication and cooperation on parity rights, dialogue, mutual respect and equality; the progressive learning and acquisition of artifacts and new achievements in all fields and spheres of society; and increasing social, psychological, and cultural stability, flexibility and balance, as well as equipoise between their own identity and personality and the new society and cultural environment. Thus, these criteria and indicators for individual adaptability in cross-cultural interaction witness quantitative and qualitative changes in the spheres of personality, occurring in the course of intercultural adaptation, differentiated by level, type, strength, vector, resistance, etc. These are the most important characteristics, describing the behavior of an individual in different social and cultural environment, affecting cognitive, intellectual, emotive, evaluative, activity, social, and cultural aspects of the conversion and development of the individual. Since the process of intercultural adaptation and of socio-cultural perceptions are closely interrelated, being realized on the surface level in the form of estimates, judgments, stereotypes, some (including specific) behavioral patterns of activity are defined through adaptability of an individual, in opposition and contradistinction to the disadaptation.

Also, when a new social identity of a student positively complied with the new environment is formed, when they increase their personal, creative potential proportionally to their activation of and cooperation in various types of activity in interpersonal and intergroup relations of alien culture communities, searching, at the same time, for conditions necessary for a person's self-actualization in the changed circumstances and its effective implementation

of self-development of participating parties. Within those, there is interchange and enrichment of the intellectual, cultural, emotional, and other spheres of a person's activity, accompanied by some quantitative and qualitative changes of an individual in the process of conscious "entry", empathy and adjustment (adaptation) to new environmental conditions. Identified in the functional definition of the intercultural adaptation were: regulatory, praxeological (relational creative transformation of the individual directly and of the environment in the course of their interaction), axiological, communicational, and socialization.

One of the main differences of cross-cultural adaptation from its other types and varieties lies in the fact that it immanently bears axiological purpose; it is filled with value-orienting content, which has a direct impact on the proportion of subject-practical efforts in the process of adaptation. This is a set of value orientations having both direct and inverse dependence on the level of operating with general and specialized knowledge, as well as communicative skills relevant to the situation of interaction, which, in turn, is seen as a process of equivalent exchange of values [22]. The higher the level of cognitive, practical, evaluative, reflective and organizational skills in an interdisciplinary field and in the professional activity is, the more likely the higher the level of individual adaptation, productive cross-cultural interaction and personal self-realization in the educational information field of dialogue of cultures is an internal driving force there is a slowly maturing "conflict" between the familiar, native, mastered cultural activities (in its various forms and means) and the new, changed conditions, requirements, needs and potential opportunities in the cultural environment. A dominant position, however, is represented by praxeological function as it is intended to transform the acts of activities and behavioral patterns, realized in the information field into an integrative quality of a person. That provides the opportunity to solve stereotyped, typical and extraordinary tasks and problems arising in the process of cross-cultural interaction.

while contacting with the representatives of different cultures, the complexity, diversity and ambiguity of the phenomenon of intercultural adaptation in cross-cultural interaction, becomes apparent which affects all areas and aspects of the personality in its entirety. It should be noted here that currently the situation regarding the preliminary stage of the phenomenon of adaptation in education science is hypothesized and requires a more in-depth study on the theoretical plane, as well as more substantial empirical and experimental verification in practice, leaving the indicated issue an open question. Nevertheless, the results obtained allow us to speak confidently about the success, efficiency and high productivity of the information field use in cross-cultural interaction for the development of intercultural adaptation and tolerance, multiethnic competence, cognitive, mental and verbal activity, cultural awareness and values. This work opens up opportunities for further research in the defining of psychological and pedagogical conditions and factors for the development of intercultural adaptation of students in the e-learning environment, developing new educational modules based on cross-cultural characteristics of the participants, and preventing xenophobia and inter-ethnic hostility in modern society.

Acknowledgements

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