



ARMENIAN JOURNAL OF SPECIAL EDUCATION

Scientific Methodological Journal

First Issue of the first Volume

Yerevan, 2020



ISSN 2579-2881

ARMENIAN JOURNAL OF SPECIAL EDUCATION

Scientific Methodological Journal

First Issue of the first Volume

Yerevan, 2020

EDITORIAL POSITIONS AND BOARD

Editorial Position and name of person	Degree, position and the university
Chairman of the Editorial Board	
Ruben Mirzakhanyan	Doctor of History, Rector of Khachatur Abovyan Armenian State Pedagogical University Professor of the Chair of Armenian History, Chair of Academic Council
Editor in chief	
Marianna Harutyunyan	PhD, Associate professor Chair of Speech and Rehabilitative Therapy, Faculty of Special and Inclusive Education, Head of International Cooperation Unit, Khachatur Abovyan Armenian State Pedagogical University
Editorial Board	
Vesa Puuronen	Doctor of Social Science Department of Educational Sciences and Teacher Education, University of Oulu, Finland
Vilppola Tuomo	PhD, Director of the Teacher Training at University of Oulu Lecturer, an expert on inclusive education at the Faculty of Education of the University of Oulu, Finland
Renata Ticha	Renáta Tichá, PhD is a Research Director and a Co-Director of the Global Resource Center on Inclusive Education Institute on Community Integration, University of Minnesota USA
Brian Abery	PhD is the Co-Director of the Global Resource Center on Inclusive Education and the Research and Training Center on HCBS Outcome Measurement Institute on Community Integration University of Minnesota, USA
Christopher Johnstone	PhD Educational Policy and Administration, Assistant Professor, Comparative and International Development Education, University of Minnesota, USA
Liya Kalinnikova Magnusson	PhD in special education, senior lecturer in special education, Department of Education and Business Studies, University of Gävle, Sweden

Stepan Grigoryan	Doctor of Medicine, Professor Head of Chair of Speech and Rehabilitative Therapy, Faculty of Special and Inclusive Education, Khachatur Abovyan Armenian State Pedagogical University, Armenia
Vardine Sahakyan-Sabato	MD, PhD in Biomedical Science Faculty of Medicine, KU Leuven, Belgium
Tereza Azatyan	PhD, Associate professor Head of the Chair of Special Pedagogy and Psychology, Faculty of Special and Inclusive Education, Khachatur Abovyan Armenian State Pedagogical University
Janna Paylozyan	Doctor of Pedagogy Chair of Speech and Rehabilitative Therapy, Faculty of Special and Inclusive Education, Khachatur Abovyan Armenian State Pedagogical University, Armenia
Tigran Petrosyan	PhD, Associate professor Chair of Speech and Rehabilitative Therapy, Faculty of Special and Inclusive Education Faculty, Khachatur Abovyan Armenian State Pedagogical University, Armenia
Anahit Lalabekyan	PhD, Associate Professor Head of Chair of English Language Teaching, Faculty of Foreign languages, Khachatur Abovyan Armenian State Pedagogical University, Armenia

Approved by Khachatur Abovyan Armenian State Pedagogical University Scientific Council

MESSAGE OF THE EDITORIAL BOARD CHAIRMAN

Welcome to the Armenian Journal of Special Education (AJSE). This journal is a peer reviewed journal in English for the enhancement of research in different areas of special, inclusive education and rehabilitation. The aim of the AJSE is to give a highly readable and valuable addition to the special education literature which will contribute to the decisive reference tool for years to come. Key to our aim is a vow to enlightening international authors, readers, and reviewers to become highly qualified and skilled writers, critics, and users of special and inclusive education research on international level, as well as advanced researching practices.

We are delighted to publish the First Issue of the first Volume in English, which includes different issues of international and national special, inclusive education and rehabilitation fields that are relevant for up-to-date dispute. We are more than pleased to receive contributions for our next issue from special educators, rehabilitation field specialists, researchers, scholars and practitioners to ensure the reliability and the success of the Journal.

We highly appreciate any comments, feedback and suggestions that would help us to advance the objectives of the Journal. Always keeping in mind that education without innovative research and expansion is pointless for the community, we are keeping the track to interweave universally and contribute to global knowledge as much as it is possible.

Sincerely,

RUBEN MIRZAKHANYAN

CONTENT

N	Author and title	Page
1	Aida Kalashyan, <i>Elderly's meaningful occupation as a rehabilitation mean in Occupational Therapy</i>	7
2	Anna Malkhasyan, <i>The use of standardized assessment tests in the process of Speech Therapy intervention</i>	22
3	Astghik Grigoryan, <i>Major stages of reading skills development</i>	42
4	Geghecik Grigoryan, Gohar Hovyan, <i>Speech Therapy intervention with Armenian-speaking children having sounds pronunciation disorders</i>	52
5	Madhavi Sharma, <i>Attitude of Samagra Shiksha Abhiyan Special Teachers towards inclusion of the children with Divyangjan in Nagpur</i>	67
6	Nelly Hunanyan, <i>Autistic children verbal and non-verbal communication development</i>	81
7	Sona Davtyan, <i>Spacial orientation of children with visual impairments in families</i>	90
8	Spartak Palikyan, <i>The importance of the preliminary assessment of students' knowledge in the process of teaching the discipline "The basis of genetics"</i>	97
9	Tigran Petrosyan, Arayik Dunoyan, Hasmik Mkrtchyan, <i>Application of motion capture systems in ergonomic analysis</i>	107
10	Victoria Babikian, <i>Fulfilling a need in Armenia: the creation of the Occupational Therapy guidebook for inclusion</i>	118
11	Zaruhi Harutyunyan, Annika Öhman, Mandana Fallahpour <i>Lived experience of participation in daily occupations among older people living in social house in Armenia</i>	127

ELDERLY'S MEANINGFUL OCCUPATION AS A REHABILITATION MEAN IN OCCUPATIONAL THERAPY

AUTHOR'S DATA:

Aida Kalashyan, OT MA

The republican psychological-pedagogical support center

Occupational Therapist

Contacts: aidakalashyan@gmail.com

ABSTRACT

The aim of the study is to find out the importance of occupation in the lives of elderly people and identify the occupation therapy effect of their well-being.

The survey was conducted on quantitative and qualitative research for the collection of research data. For quantitative research was used a testing method with the use of Chris Mayer's and Interests questionnaires. Qualitative research is based on quantitative research results, accordingly has been designed a questionnaire that has helped to reveal the research question. MS Excel program was applied for analyzing quantitative research, and thematic analysis method for qualitative research.

The results of the research reveal that most elderly people do not have meaningful occupation, do not do any kind of job, do not engage in their preferred occupation. These circumstances are interpreted as the work for the livelihoods organized by the institution. In addition, this was explained not only by the lack of alternative occupation options in the institution, but also by the lack of desire of the elderly. The elderly voiced also financial and health problems that hindered their involvement in their preferred occupation.

Key words: Elderly, occupation, occupational therapy, favorite occupation, aging process, elderly institutional life.

INTRODUCTION

Aging is one of the most important stages of life that a person must live as efficiently as possible (Bonder & Goodman, 2008). The concept of effective aging implies that when a person maintains the normal course of his life in the physical, mental and social aspects, reduces the negative aging process (Johnson & Walker, 2016).

Currently, many specialists regularly update their theoretical and practical knowledge to determine the phenomena of aging and the problem of aging (Johnson & Walker, 2016). Such specialists include occupational therapists who, since 1940, have been involved in individual interventions with elderly who have various illnesses or limitations in their daily life (WFOT, 2009).

Occupational therapy is client-centered profession which provides health care and well-being of the individuals by the way of meaningful occupation (AOTA, 2019; WFOT, 2009). Occupations are central to a client's (person's, group's, or population's) identity and sense of competence and have particular meaning and value to that client. The occupation in occupational science literature has different definitions (AOTA, 2014). The occupation is goal-directed pursuits that typically extend over time, have meaning to the performance, and involve multiple tasks (Christiansen, Baum & Bass-Haugen, 2005).

LITERATURE REVIEW

Aging can be defined as age irreversible changes during the development of the organism, which limit the person's adaptive capabilities (AOTA, 2014), for that reason, as Bonder and Goodman mention in their scientific article aging is one of the most important stages of life that a person must live as efficiently as possible (Bonder & Goodman, 2008). According to Khrisanova's article the concept of effective aging implies that when a person maintains the normal course of his life in the physical, mental and social aspects, reduces the negative aging process (Johnson & Walker, 2016).

Currently, many specialists regularly update their theoretical and practical knowledge to determine the phenomena of aging and the problem of aging (Johnson & Walker, 2016). Such specialists include occupational therapists. Occupational therapy is client-centered profession which provides health care and well-being of the individuals by the way of meaningful occupation (AOTA, 2019; WFOT, 2009), and the occupation, according to the Johnson, enhance the quality of life of elderly (Johnson & Walker, 2016). The research of Christiansen, Baum, Bass-Haugen which deals with performance, participation, and well-being has shown that many elderlies have reached retirement age lose their basic occupation, in fact, most of their daily lives become "empty" and should be made more saturated (Christiansen, Baum & Bass-Haugen, 2005), because, according to Johnson, an important aspect of the quality of life in elderly is achieving maximum independence in their daily life (Johnson & Walker, 2016).

Johnson also mentioned that often on independence of daily life of elderly can have a great influence, such as psychological and social health (Johnson & Walker, 2016), which plays an important role in the ability to adapt to different life situations (Cumming, Thomas, Szonyi, Salkeld, et al., 1999). And based on these conditions, by regularly perform therapeutic intervention occupational therapists help the elderly to do what they want and what they need. In addition, occupational therapy helps elderly to live in a full life, improve their health, prevent and overcome injuries, disorders, and in some cases also acquire the most comfortable life skills with them (Hansen, Ashby & Baug, 2015).

Thus, as Kiernan and Winkleby noted in their work, the occupational therapist should give importance to their participation in various activities, which allows the elderly to include in some occupation (Chevannes, 2002).

The occupation in occupational science literature has different definitions (AOTA, 2014). According to the research of Christiansen, Baum, Bass-Haugen the occupation is goal-directed pursuits that typically extend over time, have meaning to the performance, and involve multiple tasks (Christiansen, Baum & Bass-Haugen, 2005).

Within the framework of the “Occupation in lifestyle redesign: The Well Elderly Study Occupational Therapy Program” research of Jackson, Carlson, Mandel, Zemke, Clark in 1998 reveals the effectiveness of occupational therapy in the lives of elderly (Cumming, Thomas, Szonyi, Salkeld, et al., 1999; WHO, 2010; Enderby & Wade, 2001). The interventions were based on theoretical and practical knowledge of occupational therapy science which highlight the change in quality of life enabling participants to individually choose the occupation, which will provide their well-being (Enderby & Wade, 2001).

The above mentioned framework proved the role of occupational therapeutic interventions, because occupations have a cumulative effect on our health, they may determine whether we can live independently in older age or need someone's care (WHO, 2010).

Within the other framework of the “Occupation: purposefulness and meaningfulness as therapeutic mechanism” research by Trombly in 1995 tried to find out how does purposefulness and meaningfulness of daily life can effect on person's life quality (Trombly, 1995).

The result of the research has shown that the meaningfulness and the purposefulness of daily performance leads to intellectual and physical well-being and the occupational therapeutic interventions not only ensure the final result, but also the high indicator of the future quality of person's life (Trombly, 1995).

Besides showing maximum independence in their daily life and participating in some occupations, in the high quality of life of elderly Haak highlights the environment (Khristanfova, 1999). Achieving maximum independence in their daily life and their participation in environmental events should also assist the state (RA Government 18.09.2014 N 39 Protocol Decision). According to the 2014 data, currently there are 8 state and non-state boarding-houses in the Republic of Armenia. In the boarding-houses elderly are provided with all essential items and services necessary for a livelihood: (including shelter, furniture, clothing, personal hygiene items, foodstuff, first medical aid, leisure activities) (RA Government 18.09.2014 N 39 Protocol Decision).

Harutyunyan in his scientific article highlights the current location of elderly and favorable environmental conditions (Harutyunyan, 2012), but living in boarding-houses, in the nursing homes considerably limited the independence and the choice of occupation of elderly that have a significant impact on the well-being and quality of their life (Harutyunyan, 2012).

In addition, involvement in some occupation balances life and the person feels satisfaction from life as Brown and Franklin mentioned. Life satisfaction predicts a person's psychological well-being (Wade, 2003), and this provides development of interpersonal relationships and communication skills (Chudnova, 2015; Wade, 2003).

Taking into consideration this fact, a research has been carried out the aim of which is to find out the importance of occupation in the lives of elderly people and identify the occupation therapy effect of their well-being.

Therefore, in this context, the problem of research was formulated as follows: "*What kind of rehabilitation effect will meaningful occupation provide on elderly' welfare*".

METHODOLOGY

The survey was conducted on quantitative and qualitative research for the collection of research data. For quantitative research was used a testing method (Wade, 2003). Testing is one of the most common method of sociology. With these method quantitative and qualitative indicators can be obtained, which are contributing to the discovery of a research problem. There are specified standardized and projective testing methods. The standardized tests were used as a data collection method during the quantitative research, because by using them can be determined quantitative estimates. For revealing the problem of occupation of elderly were selected Chris Mayer's and Interests questionnaires (Kielhofner, 2002; Mayers, 1998), which are standardized tests. Chris

Mayer's and Interests questionnaires are client-centered approaches and in occupational therapy they are used before intervention. The questionnaires are including almost all the areas of occupation and reveal the needs of elderly. However, during the research have been selected and have been taken into consideration those areas of occupation which have a close relationship with the problem of occupation, as a result, from the questionnaires have been removed those areas which do not relate to the occupation (Mayers, 1998).

The Interests questionnaire was used so that we could include the broader areas of occupations and identify the frequency of the occupations. In addition, the Interests questionnaire determines the types preferred occupations of client's, whether the client wants to continue or carry out this occupation (Kielhofner, 2002). Based on the analysis of the results of the Chris Mayer's and Interests questionnaires during the research have been created a new questionnaire, which would explain the problem of the research. Created questionnaire include questions that are aimed to reveal the cultural events that occur inside the institution, for what reason the elderly cannot participate in these events, and what events they would like to participate in. As the elderly gave extensive answers during the data collection created questionnaire provides quantitative estimates. According to the given answers, especially were highlighted those answers that were closely related to the research problem during the data analysis.

Participants

For studying the research question in 2018 from April to September was conducted a research with 15 elderlies in "Narek" NGO. The survey was conducted with 14 (93%) of the elderly, and from 1 person (7%) received a rejection. The 71% of the responders are female, while the 29% are male. Three of the participants have disabilities, nine of them need care and two are refugees (Table 1).

Table 1. Demographic data of participants.

N	Sex	Age	Status
1	Female	77	Need care
2	Female	71	Need care
3	Female	78	Need care
4	Female	68	Refugee
5	Female	80	Need care

6	Female	93	Need care
7	Female	84	Refugee
8	Female	62	Has disability
9	Female	68	Need care
10	Female	72	Need care
11	Male	64	Need care
12	Male	67	Has disability
13	Male	70	Need care
14	Male	63	Has disability

Ethical considerations

Taking into account the fact that currently there was no research ethics committee in Republic of Armenia, gaining official ethical license for the research, so, firstly, the plan of the master's thesis was discussed with the supervisor. Secondly, it was confirmed in the session of the Chair of speech and rehabilitation therapy. Before starting the field works, permission was gained from the director of the nursing home. Further, participants were given the written information on the research aim, their rights and ethical obligations of the researcher. All participants, as well as the director of the institution, have given their written agreement by signing the information paper. The researcher gave confidence to participants that their private issues were preserved and confidentiality was assured. After all these processes have been implemented, the main works have started.

Data collection

Data was collected by using standardized questionnaires, in which 14 respondents gave short answers. This gave an opportunity to discover the frequency of occupation in the lives of elderly and their desire to engage in occupation. In addition, the standardized testing allows us to save time and not get bored. The questions were asked directly by the researcher in a separate room, located inside the institution.

The questions in the questionnaire were aimed to reveal the preferred occupation of elderly, including those in which they want to participate. Also, by using these questions we can identify those obstacles because of what the elderly is not engaged in these occupations (Kielhofner, 2002;

Mayers, 1998). This type of data collection provides quantitative indicators during the data analysis.

Based on the standardized questionnaires during the data collection, was designed a questionnaire, which provides qualitative indicators during the data analysis. Created questionnaire include questions that are aimed to reveal the cultural events that occur inside the institution, for what reason the elderly cannot participate in these events, and what events they would like to participate in. As the elderly gave extensive answers during the data collection created questionnaire provides quantitative estimates. According to the given answers, especially were highlighted those answers that were closely related to the research problem during the data analysis.

Data analysis

According to the World Health Organization (WHO), people over 60 years old are considered elderly (AOTA, 2019; Searle, Mahon, Iso-Ahola, Sdrolias et al., 1998), but, since the retirement age of the Republic of Armenia (RA) is 63 years, so the participants are older than 63 years (AOTA, 2019).

MS Excel program was applied for analyzing quantitative research (Braun & Clarke, 2006; Johnson & Walker, 2016), what allows to analyze the primary data more quickly, also it is accessible almost for everyone.

The data analysis process took place in 5 sequential stages, by which we obtained a percentage response, further it was expressed through graphic images.

At the first stage of the process, were selected and grouped the equivalent answers (for example, "yes", "no", "free", "hard", "sometimes", "rarely"). Then, according to their amount, they were turned into digital units and got the corresponding names.

At the second stage the database was created. It was realized through the establishment of appropriate columns. Columns were matched in nominal units (for example, "communication", "work / education", "favorite occupation") and the number of responders who had been coded and numbered (1, 2, 3, 4, etc.). At the third stage, data was imported. At the fourth stage the primary data was analyzed. As a result, we got the percentage correlation. At the fifth stage the data was expressed through graphic images (Figure 1, 2, 3, 4, 5) (Brown & Frankel, 1993; Graff, Vernooij-Dassen, Thijssen, Dekker et al., 2006).

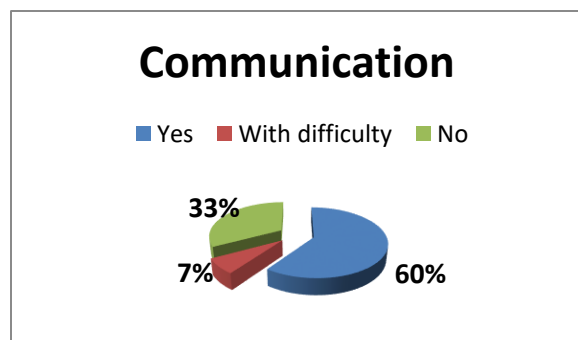
Qualitative data analysis was performed by using Brown and Clark's thematic analysis method, which helps you search, analyze, and identify data (Mishra, 2003). The analysis is done by identifying, reading and repeating the topics (Ng, Lo, Lee, Lam et al., 2006). The applicability of the latter was more relevant in the context of data analysis, as the respondents gave detailed answers during data collection. By identifying the topics were highlighted those key problems which were closely related to the research problem.

FINDINGS

Data analysis of the quantitative research showed that 60% of respondents communicate easily with others, 7% had minor communication difficulties. 33% of respondents have significant difficulties. The elderly explains those difficulties that they feel alone, think that people in the nursing home do not have common ground or have other attitudes (e.g. lack of mood, laziness) (Figure 1).

As a result of the research, it was revealed that the vast majority of respondents (93%) do not have any occupation, do not perform any kind of work. This circumstance was explained not only by the lack of alternative occupation inside the institution, but also with the lack of desire. 7% of respondents have an occupation: they mostly take care a small garden in the area.

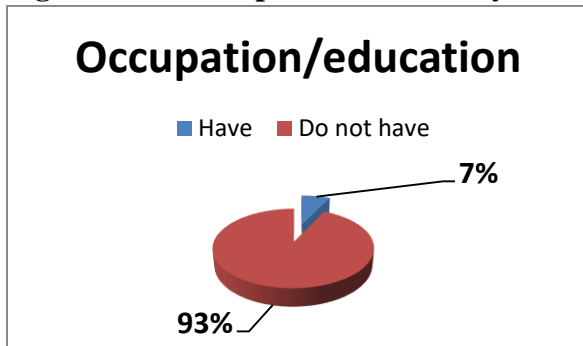
Figure 1. Elderly Communication Skills



As a result of the research, it became clear that the main reason for the lack of occupation in the nursing home is that self-management is carried out by the staff of the institution: such as clothes washing, cleaning the area, cooking, shopping, etc. (Figure 2).

During the data collection for revealing "the favorite occupation" the responders had to offer their version of occupation. As a result of the research, the majority of respondents (20%) believe that their daily life will be more meaningful and enjoyable if they often participate in any event.

Figure 2. Work experience of elderly

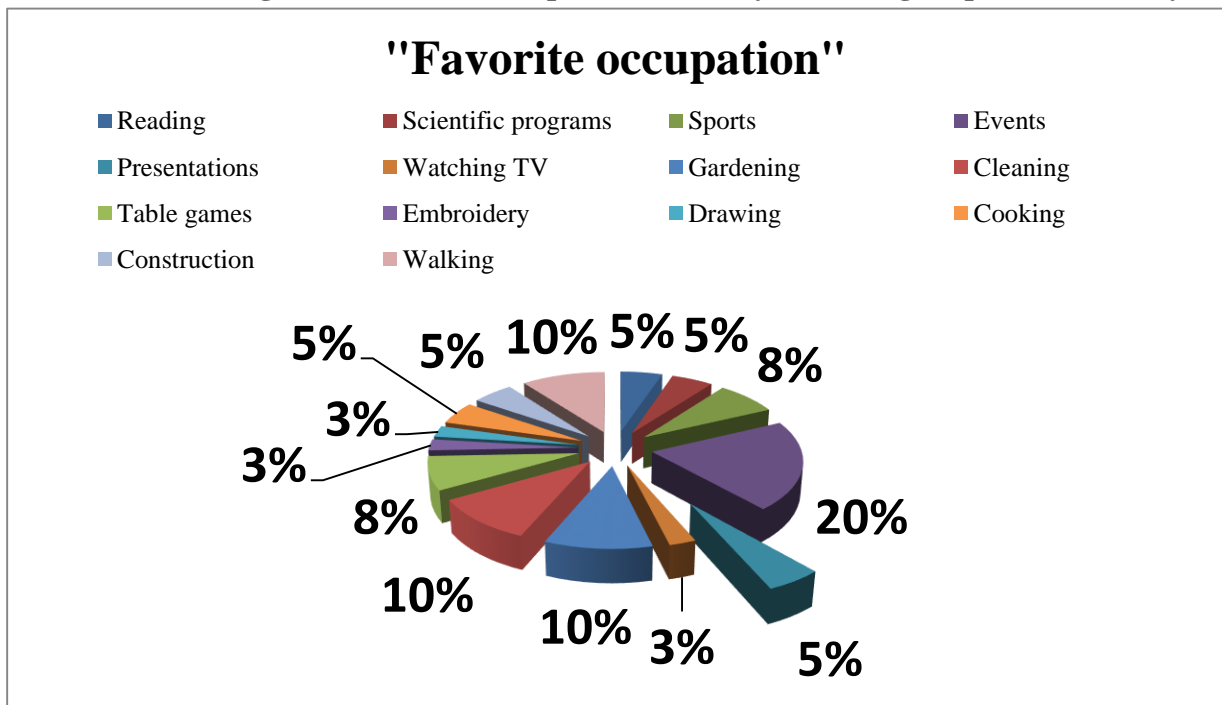


The least number of respondents who gave the most attention was walking (10%), cleaning (10%), gardening (10%), table games (8%) and sports (8%) (Figure 3). The results of the research revealed that the respondents do not have meaningful occupation that they prefer. That is

why they show less activity, which leads to a deterioration of wellbeing.

The analysis of created questionnaire has shown that everyone's birthday celebrations, holidays are celebrated within the institution, also gatherings, walking's in the nearby area are organized. Sometimes excursions are organized. Often the events, small concerts and performances are organized by the students or volunteers (gardening, construction works).

Figure 3. Favorite occupation of elderly according to qualitative analysis.



According to the research results, most elderly want to participate in performances (theatre - 34%, movie theater - 17%, opera - 17%), and another group of respondents expressed a desire to participate in exhibitions (8%) and go for a walk more (8%). 8 % of respondents reported that they

were satisfied with the events that were carried out inside the institution, and another 8% does not want to participate in any event (Figure 4).

Figure 4. Desirable events of elderly people

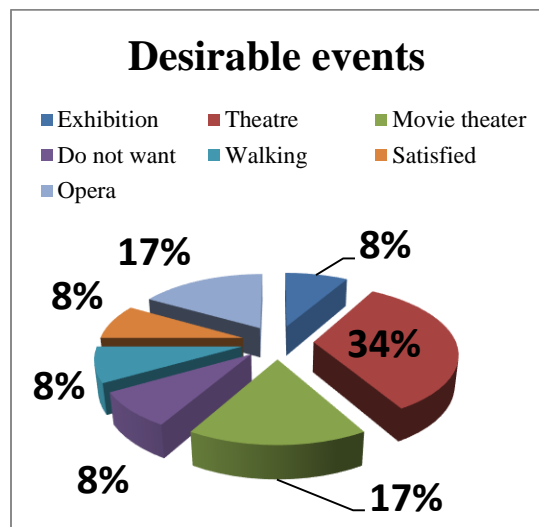
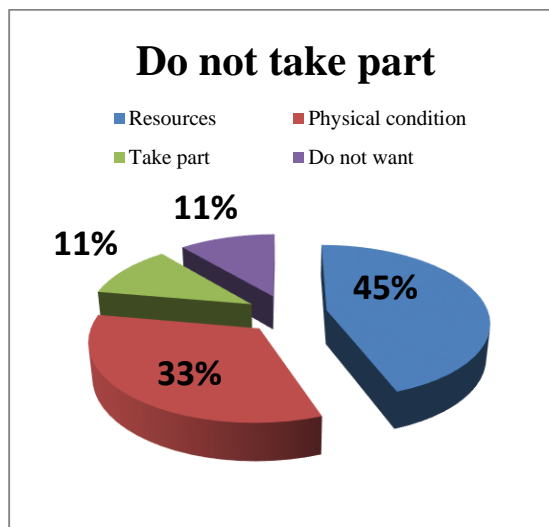


Figure 5. The reasons of not participation.



According to other questionnaire's data analysis, it turned out that 45% of respondents do not take part in the preferred event, because there are not enough financial and transport resources. 33% of respondents do not participate because of their physical condition. 11% of respondents take part in their favorite event and are satisfied, and 11% do not want to participate in any event (Figure 5).

DISCUSSION

The aim of this research is to find out the importance of occupation in the lives of elderly people and identify the occupation therapy effect of their well-being. This research pursues the idea that aging is one of the most important stages of life that a person must live as efficiently as possible (Bonder & Goodman, 2008), because it raises the quality of life, well-being, and well-being refers to the overall state of human life and reflects the level of human satisfaction with life (Searle, Mahon, Iso-Ahola, Sdrolias et al., 1998), which has been proven repeatedly during the research. At the same time, during the research, it was seen that on the quality of life of elderly can have a great impact such factors as psychological and social health, which play an important role in the ability to adapt to different situations of life. This fact was also pointed to by Johnson in his scientific article (Johnson & Walker, 2016). One of the ideological problems is the ideology

of Hanson and Jones, according to which the elderly not always need care. It should also be taken into account that aging should not be linked to illnesses or disabilities (Searle, Mahon, Iso-Ahola, Sdrolias et al., 1998). However, this became clear in the context of literature review, data collection and direct contact with elderly, that at present state social services in the Republic of Armenia are paying more attention to ensure minimum living conditions for the elderly, which significantly reduces the importance of meaningful occupation of elderly, while a study by Brown and Franklin in 1993 proves that one of the most important factors in ensuring quality of life is providing maximum independence in daily life (SWD, 2008), and this provides development of interpersonal relationships and communication skills (Chudnova, 2015; Wade, 2003).

The problem of research was formulated as follows: *"What kind of rehabilitation effect will meaningful occupation provide on elderly' welfare"*.

The study by Jackson in 1998 proves the rehabilitation effect of occupational therapeutic interventions (Enderby & Wade, 2001), as well as the purposefulness and meaningfulness of occupation (Trombly, 1995), but since there are no studies in the Republic of Armenia that would highlight the importance of occupation in the lives of elderly, we decided to conduct a research which aim is find out the importance of occupation in the lives of elderly people and identify the occupation therapy effect of their well-being in the Republic of Armenia. According to the results of this research, the importance of occupation is also proven in non-governmental boarding-Houses in the Republic of Armenia, especially in "Narek" NGO.

The scarcity of meaningful occupation is also explained by the fact that there are no occupational therapists, gerontologists in the organizations dealing with the problems of elderly in the country, which does not allow to fully maintain the health of elderly and ensure a favorable environment for their livelihood, while the number of elderly people is gradually increasing and there is a need to provide them with additional social services (Mishra, 2003).

As a result of the above-mentioned research, it became clear that elderly is unable to participate and engage in their activities because they do not have enough health, physical and financial resources. During the data analysis, it became clear that 11% of respondents do not want to participate in any event.

In addition, the results of the research showed that elderly do not have a wide choice of occupation options. According to the data analysis results during the research revealed those desired events in which elderly want to participate, including cultural events, theater, exhibitions,

cinema, opera. And only 8% of elderly respondents are satisfied with occupation opportunities within the institution.

LIMITATION OF THE STUDY

The aim of the study is to find out the importance of occupation in the lives of elderly people and identify the occupation therapy effect of their well-being, and, although this justified our expectations, the study has some limitations. The main limitation of research is the small number of the respondents.

One of the limitations of the research is that the survey was conducted only at "Narek" non-governmental nursing home in the region of Kotayk. The results would be more extensive if the survey was conducted in all boarding-houses in the Republic of Armenia.

IMPLICATIONS FOR PRACTICE AND FUTURE RESEARCH

This research has revealed and once again highlighted the importance of meaningful occupation as an occupation therapy rehabilitation process in the lives of elderly. The sphere of occupation of elderly and gerontology is still open in Armenia. I think the study will help all the organizations dealing with the problem of elderly, including the state, organize events that will focus on the meaningful occupation of the elderly, which, in turn, will contribute to effective aging.

CONCLUSION

This study examines the occupation therapeutic effectiveness of occupation in the lives of elderly. The results of the study underline the importance of occupation and the impact on the quality of life of elderly people. As well as revealing the obstacles for participation and engagement in the occupation, restrictions on the variety of occupation, also desirable activities of elderly people. During the research also explored their capacity to engage in any occupation, as this is the way to:

- Improve the quality of life;
- Improve health;
- Mood enhancement;
- Increasing motivation to do any kind of occupation;
- Improve communication and social skills;

- Increase physical and mental activity;
- Increase of work capacity.

REFERENCE LIST

1. American Occupational Therapy Association about Occupational Therapy (2019) doi// <https://www.aota.org/Conference-Events/OTMonth/what-is-OT.aspx>
2. American Occupational Therapy Association (2014) Occupational therapy practice framework: Domain and process, Third edition.
3. Bonder, B., & Goodman, G. (2008) Occupational Therapy for physical dysfunction, “Preventing occupational dysfunction secondary to aging” Chapter 37, Lippincott Williams & Wilkins.
4. Braun, V., & Clarke, B. (2006) Using thematic analysis in psychology. *Qualitative research in Psychology*, 3, 77-101.
5. Brown, B., & Frankel, B. (1993) Activity through the years: Leisure, leisure satisfaction, and life satisfaction. *Sociology of Sport Journal*, 10, 1-17.
6. Chevannes, M. (2002) Issues in educating health professionals to meet the diverse needs of patients and other service users from ethnic minority groups, *Journal of Advanced Nursing*, 39(3), 290-298.
7. Christiansen, C., Baum, M., & Bass-Haugen, J. (2005) Occupational therapy: Performance, participation, and well-being. Thorofare, NJ: Slack.
8. Chudnova, O. (2015) Algoritm bazovogo analiza dannikh sociologicheskogo oprosa v programme MS Excel (Algorithm based analysis of sociological data in MS Excel), Samara.
9. Cumming, R. G., Thomas, M., Szonyi, G., Salkeld, G., O’Neill, E., Westbury, C., et al. (1999) Home visits by an occupational therapist for assessment and modification of environmental hazards: A randomized trial of falls prevention. *Journal of the American Geriatrics Society*, 47, 1397–1402.
10. Elderly population (2010) WHO Health situation in elderly population
11. Enderby, P., & Wade, D. (2001). Community rehabilitation in the United Kingdom. *Journal of Clinical Rehabilitation*, 15, 577–581.
12. Graff, M. J. L., Vernooij-Dassen, M. J. M., Thijssen, M., Dekker, J., Hoefnagels, W. H. L., & Rikkert, M. G. M. O. (2006) Community based occupational therapy for patients with

- dementia and their care givers: Randomised controlled trial. *British Medical Journal*, 333, 983–986.
13. Hansen, G., Ashby, S., & Baug, I. (2015) *Everyday products in the middle ages. Crafts, Consumption and the Individual in Northern Europe*, Oxbow books.
 14. Harutyunyan, Z. (2012) Ergotherapian vorpes tarecneri kyanqi voraki bardzracman mijoc (Occupational Therapy as a Mean of Improving the Quality of Life for the Elderly) - "Mankavarjutyun" *Gitamethodakan amsagir # 1*, 48-53.
 15. HH Karavarutyun 18.09.2014 N39 ardzanagrayin voroshum (RA Government 18.09.2014 N 39 Protocol Decision) doi // <http://www.irtek.am/views/act.aspx? Aid = 77782>
 16. Johnson, M., Walker J. (2016) *Spiritual diemnsions of aging*, Cambridge University Press Chapter 34, p. 722.
 17. Khrisanfova, E. (1999) *Osnovi gerontologii (Gerontologies Basics)*, Moskva
 18. Kielhofner, G. (2002) *A model of human occupation: Theory and application*, Fourth Edition, Lippincott Williams & Wilkins.
 19. Mayers, C. (1998) An evaluation of the use of the Mayers' Lifestyle Questionnaire. *British Journal of Occupational Therapy*, 61 (9), 393-98.
 20. Mishra, S. (2003). Occupational therapy in community based rehabilitation. *Indian Journal of Occupational Therapy*, 35, 13–16.
 21. Ng, S., Lo, A., Lee, G., Lam, M., Yeong, E., Koo, M., et al. (2006) Report of the outcomes of occupational therapy programs for elderly persons with mild cognitive impairment (MCI) in community elderly centers. *Hong Kong Journal of Occupational Therapy*, 16, 16–22.
 22. Searle, M. S., Mahon, M. J., Iso-Ahola, S. E., Sdrolias, H. A., & Dyck, J. V. (1998). Examining the long term effects of leisure education on a sense of independence and psychological well-being among the elderly. *Journal of Leisure Research*, 30, 331–340.
 23. Social Welfare Department. (2008). *Services for elders: In Social Welfare Department review (2005–2006 and 2006–2007)*. Hong Kong: Author, pp. 27–32.
 24. Trombly, A., (1995) "Occupation: purposefulness and meaningfulness as therapeutic mechanism", *American Journal of Occupational Therapy*, Vol. 49, 960-972.
 25. Wade, D. T. (2003). Community rehabilitation, or rehabilitation in the community. *Disability and Rehabilitation*, 25, 875–881.

26. World Federation of Occupational Therapist. (n.d.). What is Occupational Therapy? Retrieved April 21, 2009, from <http://www.wfot.org/information.asp>

**THE USE OF STANDARDIZED ASSESSMENT TESTS IN THE PROCESS OF SPEECH
THERAPY INTERVENTION**

AUTHOR'S DATA:

Anna Malkhasyan, Researcher

Chair of Speech and Rehabilitative Therapy, Khachatur Abovyan Armenian State Pedagogical University

Applicant, researcher

Speech therapist in “Madatyan Psychological Center”

Contacts: anna-malkhasyan@mail.ru

ABSTRACT

To study and comment the importance of speech research process in the speech therapeutic correctional process, to discover how the objectivity of speech evaluation process is providing in Republic of Armenia. The process of studying, discovering and commenting the objectivity and the importance of speech research in Republic of Armenia will help to organize the first research stage of correcting and developing the speech. The experience shows, that the level of efficiency of speech correctional developing work generally depends on objectivity of research stage, the speech evaluation, and the reliability of data obtained.

The methodology of the research of gathering information, processing and analyzing is based on quantitative method approach, which allows to combine quantitative data collection by using quantitative method, subsequently, having opportunity to make data based conclusions, based on digital patterns. The special developed test was used for speech therapists and for the relating field specialists (psychologists, special educators, art therapists, and etc.).

The research has shown, that speech therapists and other specialists of the relating fields of Republic of Armenia attach importance of speech assessment process; the majority of respondents have his/her own speech evaluation tools, methods, and resources, however, none of them uses standardized test in order to highlight the features of speech, and, unfortunately, they state that their evaluation is not objective, but subjective and it may be questioned by other specialists and parents. However, it should also be stated that respondents unanimously noted, that there was a need of having speech assessment standardized tests, which would be relevant to the native language and as a result of test application objective results will be known.

Key words: Speech Assessment, Speech Therapy, Standardized Tests, International Classification of Function, children with speech disorders.

INTRODUCTION

Based on Republic of Armenia (RA) Government protocol decision of Session N1 on January 9, 2014, “A person’s comprehensive evaluation of World Health Organization International Classification of Functioning based on Implementation model of defining disability (hereinafter WHO ICF-CY)” according to which in recent years, in Republic of Armenia, in the scope of the social model holding of defining disability, improvements are carrying out not only in the area of defining disability but also in areas of disability evaluation, disability grade provision, service creation and provision, monitoring, and evaluation (Government of the Republic of Armenia 2014 Annex N 1 to the Protocol on the January 9 Session Decision Protocol Annex 1: Introduction of a Model for Defining Disability Based on the International Classification of Functions of the World Health Organization).

The World Health Organization International Classification of Function Children and Youth (WHO ICF-CY) allows the use of common language and terminology, thereby recording the problems in organ system or in its functions, limitations of person's activity and participation, as well as the impact of corresponding environmental factors in the period of neonatal, childhood and adolescence (WHO ICF-CY, 2001). The WHO ICF-CY allows to use one common language in the areas of healthcare, education, and social protection and to create conditions for using the available opportunities for the benefit of children and teenagers with developmental delay or disabilities. Children’s and teenagers’ health problems differ from adults’ disabilities and health problems by its nature, way of expression and impact. Taking into account these differences, the classification was compiled in such a way that it became possible completely describe changes connecting with development. Therefore, it allows to involve different age groups and different environments features (ALTE, 2014).

From June 2016 Functional Assessment Methodological Handbook was developing by several stages, first, the codes were selected by the specialists, then the codes qualifiers were established, after which the Methodological Handbook was put into practice from a period of June - August (for 3 months), during this period 50 children were evaluated. During the usage changes were made, some codes were removed, some qualifiers were clarified. The second trial started from September 2016 (Avetisyan, Ghazaryan, Malkhasyan, 2017). It lasted 6 months. Overall, 100

children were assessed, after which some qualifiers were also clarified and modified. About 200 beneficiaries attending to “Full Life” Non-Governmental Organization (NGO) Centers of Stepanavan and Yerevan were evaluated by the evaluation tools of 2016. From 2 to 18 years old children with disabilities and children with some problems without disability status were evaluated.

In 2017-2018, a new stage of development of Methodological Handbook was launched, as a result both content and structural changes were made, and particularly new codes were added, corresponding qualifiers were developed, changes were made as in the structure of the test as in usage of it during the evaluation. Individual plan forms of intervention were developed for the multidisciplinary team members. At the same time ICF tools were spread and used in other NGOs, as a result, today about 12 NGOs use ICF tools with totally 431 children with disabilities in their centers. Based on the whole results and conclusions of the process, WHO ICF-CY approach attaches importance and it attempts to be invested in the basis of activity, participation, and environmental factors evaluation of the Armenian children and teenagers with the need of rehabilitation services. Thus, as a result of person’s comprehensive evaluation, the proposed tools allow to develop individual programs of development, according to his/her personal abilities and needs, and to provide appropriate services to promote children and teenagers with disability or psychophysical disorder for their activity, participation, and for living independently and for involving in community life.

The notable is the fact, that being involved in the process of training the professional teams of the 12 NGOs, it was established that almost the majority of the specialists noted that they did not have enough tools, resources and methods which would promote to get objective, reliable and trustworthy information as a result of speech research. So we have examined the international experience, that is, the experience of the countries where functional evaluation is already applied, as they already had experience in this field. The research of the speech development problem is relevance as the native language plays a special role in the formation of the child's personality. In psychology, philosophy, and pedagogy speech and language traditionally viewed as “knot”, where the different lines of mental development - thinking, imagination, memory, and emotions are intersected.

Early age is the more important period for the development of speech. Speech disorders make difficulties in the communication with close adults, impede the development of cognitive

processes, and have a negative impact on the formation of self-consciousness. This is the reason why the prevention of speech disorders is the current issues of the science (Gromova, 2003).

As speech disorders in early childhood can later affect vocabulary and formation of grammatical structures in the future, so for the prevention of secondary disorders complex speech therapeutic research is needed. Methodologies of speech studies of early age are observed in the works of Gromova, Pechrova, Chirkina, and Sheremeteva who had developed a test for early age children's speech investigation, which is filled by the parents (Gromova, 2003).

Standardized assessments are critically important in identifying language disorder in school-age children. They are vital because they accurately and reliably establish whether a child's language skills are developing as well as same age peers (Kaderavek, 2011).

Speech-language assessment is a complex process. Assessing, describing, and interpreting an individual's communication ability requires the integration of a variety of information gathered in the evaluation process. ASHA's (American Speech- Language- Hearing Association) *Preferred Practice Patterns for the Professions of Speech-Language Pathology (SLP)* (2004) indicates that comprehensive speech-language pathology assessment includes these components:

- Case history, including medical status, education, socioeconomic, cultural, and linguistic backgrounds and information from teachers and other related service providers
- Patient/client/student and family interview
- Review of auditory, visual, motor, and cognitive status
- Standardized and/or non-standardized measures of specific aspects of speech, spoken and non-spoken language, cognitive-communication, and swallowing function, including observations and analysis of work samples
- Identification of potential for effective intervention strategies and compensations
- Selection of standardized measures for speech, language, cognitive-communication, and/or swallowing assessment with consideration for documented ecological validity and cultural sensitivity
- Follow-up services to monitor communication and swallowing status and ensure appropriate intervention and support for individuals with identified speech, language, cognitive-communication, and/or swallowing disorders

The Individuals with Disabilities Education Act (IDEA) has specific provisions concerning the assessment of students in schools. In addition, SLPs need to follow state and local requirements for the assessments of students (ALTE, 2014; Westby, Burda & Mehta, 2003).

It is important to note the distinctions between terms *evaluation* and *assessment* according to IDEA Part C Guidelines. Evaluation means the "procedures used by qualified personnel to determine a child's initial and continuing eligibility...", Part B requires that an evaluation be comprehensive and assess all areas of suspected disability. It is important for the clinician to involve other assessment staff as part of the multidisciplinary evaluation team to address educational and/or behavioral concerns for students who are not meeting the grade-level expectations (ALTE, 2014). Assessment means "the ongoing procedures used by qualified personnel to identify the child's unique strengths and needs and the early intervention services appropriate to meet those needs throughout the period of the child's eligibility...and includes the assessment of the child...and the assessment of the child's family..." (IDEA, 2004).

Association of Language Testers in Europe (ALTE) is an association of language test providers who work together to promote the fair and accurate assessment of linguistic ability across Europe and beyond. ALTE organizes courses and conferences on aspects of language assessment, and operates a quality auditing system of European language examinations. ALTE was founded in 1989 by the University of Cambridge (UK) and the Universidad de Salamanca (Spain). Today, ALTE has 34 Full Members representing 25 European languages, as well as 58 Institutional Affiliates and over 500 Individual Affiliates from all around the world (WHO ICF-CY, 2001).

Investigated studies have shown that European countries and the United States of America have more experience in this area and have tests, tools that promote the process of speech research (Gromova, 2003; Miquelyan & Miquelyan, 2010). In order to obtain reliable data on to what extent was the importance of the process of speech assessment and investigation the research was carried out, to ensure the objectivity and reliability of that process and how trustworthy they were.

LITERATURE REVIEW

The word "test" came from ancient French and is a synonym for the word "cup" (Latin *Testa* - clay pot). This word was called small clay vials used for alchemy experiments. The word "test" in Russian had two meanings for a long time:

1. Experimental oath, an English religious oath which every public official must give to prove that he is not a secret Catholic;
2. Flat floating bottle.

The test emerged in the early 20th century and it was applied in the fields of psychology, sociology and pedagogy. It has served to carry out some psychological or sociological research. Later American educators began to use the test as a way of testing students' knowledge, its perception, and application. In English the word test means experiment or check. In Armenian the word test used to refer another form of teaching task, which will be discussed below, so the foreign name of that checking form is keeping. The test is different from other forms of teaching and checking tasks, tests, textbook questions. The test is used as a fast, efficient, unbiased form of assessment that is suitable for testing and evaluating many people in a short period of time. Its role is especially enhanced when it comes to computer self-checking and self-monitoring.

Evaluation is a continuous, continuous process. It consists of quantitative and qualitative assessments. Assessment is the gathering of information about what level of learning the learner has achieved. Many valuation tools can be used to gather this information (Gromova, 2003). These may include numerous observations, written tests, homework, research, projects, oral inquiries, student-led record analysis. Written tests have their special place in them, and are one of the most actual effective ways of testing knowledge. Tests are characterized by the following points:

1. Coordination, the tasks involved are only about the same subject, even the scope of the same topic, and consist of simple to complex gradual development.
2. A special form, a test is not a set of questions or tasks. The task is usually formulated as a right or a wrong expression, which is conditioned by the response.
3. Logical task specificity: This means that the test task should not give rise to ambiguity or doubt; it has some positive or negative answer.
4. The answer to the test task is a brief judgment. At the same time, he chooses the correct answer from the ones already given. This is one of the important features of the test, the answer is already there, the respondent must choose from the given.
5. Has a special structure. There is a sequential link between the test tasks: each task stems from the previous one and further develops the topic at stake.
6. Success depends on experimentation. Another very important feature of the test task is that only after some testing can the test be confidently successful.

There are a number of factors to consider when designing a successful test. These are: knowledge of the basic principles of the test and the correct choice of task system (Paylozyan & Tadevosyan, 2009). The following requirements must be taken into account when designing a test:

- The test should be trustworthy. By saying trustworthy we understand that test results must be consistent regardless of the circumstances. In different circumstances, there should be almost no difference when different auditors apply the same test and evaluation results to different auditors.
- The test must be reliable. Reliability means that the test must serve its purpose, that is, it must test the knowledge and skills it was designed to test. Reliability test ensures success in achieving a specific goal. The test is reliable if the degree of difficulty corresponds to the level of readiness of the learner. Compliance means that for the average learner the test should be neither easy, nor too difficult. It should be of medium complexity. If the test is too easy or too difficult for the learner, it means the test is not reliable.
- The test must be effective. A test that measures the learner's knowledge, abilities and skills effectively is considered effective. In terms of content, a test is effective if it covers the key issues of the topic or topics. The test is effective if the level of difficulty of the test corresponds to the level of readiness of the learner.
- The test must be practical or feasible, by the side of technical, financial and time. When selecting a test, it is very important to choose the right types of tasks. Tests in the test should be arranged from simple to complex according to Benjamin S. Bloom's cognitive behavioral taxonomy. The following is a thought process from simple to complex.

In the complex structure of speech activity, there are distinct manifestations that comprise the phonetic, that is, the form of speech, the phonetic processes, the vocabulary and the grammatical structure (Kadevarek, 2011). Speech disorders can affect any of these components or their systems. Thus, some deficiencies relate only to extracurricular processes and are expressed by speech impairment without any accompanying manifestations, others affect the phonetic system of the language and are manifested not only by speech problems but also by poor vocabulary mastery, which results in and reading disorders. Along with all this, there is a group of disorders that encompass both phonetic and vocabulary systems, which are expressed by the general underdevelopment of all aspects of speech.

Children's and adults' speech disorders early detection problem, prevention, as well as further correction are relevant not only speech therapy but also to related sciences. The use of systematic analysis principle of speech disorders allows to reveal the difficulties of formation this or that sides of speech. Early detection of possible deviations of both verbal and later written speech allows to correct them through pedagogical (speech therapeutic) skills. As a result of the analysis of professional literature, it has become obvious that the results of speech evaluation mostly depend on the process of speech evaluation: how speech evaluation is performed, under what circumstances, when, where and the most importantly what tools, methods and resources are used.

Standardized assessments are empirically developed evaluation tools with established statistical reliability and validity. A standardized test is one that requires all test takers to answer the same items/questions in the same way and that is scored in a standard or consistent way, thus making it possible to compare the relative performance of individuals or groups of individuals. There are two types of standardized assessment instruments: norm-referenced and criterion-referenced.

So let's try to discuss the types of standardized tests. Norm-referenced tests are standardized tests designed to compare and rank test takers in relation to one another. Using a norm-referenced test makes it possible to compare an individual's score(s) with those of a large group of statistically selected individuals—usually of the same age or grade level—who have already taken the test. A norm-referenced score is typically reported as a percentile ranking. For example, an individual who scores in the 90th percentile has performed as well as or better than 90% of other test takers of the same age or grade level (i.e., those in the norming group).

But there are criterion-referenced tests that are measure an individual's performance against a set of predetermined criteria or performance standards (e.g., descriptions of what an individual is expected to know or be able to do at a specific stage of development or level of education). In educational settings, criterion-referenced tests may be used to assess whether the student has learned a specific body of knowledge. It is possible, and in fact desirable, for an individual to pass or earn a perfect score on a criterion-referenced test (Kadevarek, 2011; Tatarova, 1999).

Speech research and assessment by a speech therapist are based on the following principles:

- Complex approach. According to this principle, it's necessary to carry out not only speech therapeutic, but also medical-psycho-pedagogical research.

- Completeness and clarity. It's necessary to carry out the research of two types of speech: oral and written, aspects: impressive and expressive; and components.
- Individual approach. The research process should be appropriate to age, personal characteristics.
- Ongoing research, which assumes primary research and monitoring (Speech Therapy in practice, 2017; Paylozyan & Tadevosyan, 2009).
- Revealing existing capabilities. During the research it should be revealed a person's (with speech disorder) verbal and non-verbal existing skills, so as to manage the speech therapeutic work based on it.
- The following stages of speech therapeutic research are distinguished:
- Preliminary (orientation):
 - the study of documents (medical, pedagogical),
 - the conversation with the child (with speech disorder) and his/her parents
 - personal data
 - medical history data (life, illness, psychophysical and verbal development)
 - information about verbal and social environment, upbringing, members of family and etc.
- Basic. During this main speech therapeutic research all aspects of speech are explored.
- Differentiation.
- Final.

Child's speech therapeutic research consists of three sections:

1. A thorough study of verbal and general mental development of dynamics and upbringing conditions based on the conversation with the parents and analysis of child's documents.
2. Speech therapeutic psycho-pedagogical research by detailed recording of child's verbal and non-verbal activity.
3. The analysis of all received data and pedagogical evaluation (Tadevosyan, 2006; Zhukova, 1994).

The child's medical-pedagogical complex research and his/her medical-pedagogical complex evaluation of mental-verbal development allow the pedagogue to understand the individual characteristics of each child. As a result of the analysis of modern foreign professional

literature, it's become obvious that in abroad the speech therapeutic research is carried out in the following steps:

- interview with parent and collection of incident story,
- informal assessment - games, toys, books, experiments,
- use of standardized tests,
- meeting and discussion with parents or guardians.

During speech therapy, it's carried out study of the structure and mobility of speech apparatus, voice, breathing, speech rate and rhythm, impressive and expressive speech, writing and reading, and verbal features are emphasized. The pronunciation of sounds is examined apart in syllables, in words, in connected speech (through dialogue, picture naming, repetition of words, sentences). Phonetic listening is examined through the following tasks of phonetic perception, analysis, combination, and perceptions:

- to determine the first (last) sound of the word,
- to determine the presence (absence) of a sound in a word,
- to determine the number of sounds in a word,
- to divide the word into syllables
- to spell the words,
- to say a word that starts with a given sound, etc.

The syllable structure of a word is explored by the repetition of words having different syllable structure and sentences that they formed. When researching vocabulary, it's necessary to explore:

- the active and passive vocabulary,
- the use of different parts of speech,
- the knowledge of synonyms, antonyms,
- the name of the action,
- the attribute name,
- the ability to make generalizations.

The research of grammatical structure of speech:

- morphological aspect: singular and plural number, adjective, verb conjugation, verb conjugation time, verb tenses, word formation,

- syntactic aspect: types of sentences, structure, existence of grammaticism.

The research of connected speech assumes a dialogue according to plot picture, ability to build story from the series of picture, story retelling, forming a story on given topic.

During the research of written speech, the technical and semantic aspects are examined:

- Reading Technique: by letters, syllables, words, fluent, stuttering, “guessing”, “small scale”, “slowdown” “mirror”, omissions of words and syllables, substitutions, only correct reading of word start, confusion of letters looking similar, tracking errors of line reading.
- Understanding of the meaning of what is read: the main idea, metaphorical meaning, cause-effect relationships.

The copywriting, dictation, self-written work is examined. The presence of specific and non-specific errors is noted. The samples of written work are attached to the research card. The samples of written work are attached to the research card. The speech therapist also examines the child's play activities: general and soft mobility, target activities (drawing, plotting, appliqué and constructive activity), cognitive sphere, self-service and social adaption skills, as well as focusing on the eyes, emotional communication, stereotyped speech, movements and actions, responding to the interlocutor's speech, using the word as a means of communication, the presence or absence of echolalia. The research data is summarized by the speech therapist in a speech research card, indicating a brief psycho-pediatric profile of the child, the results of the oral and written speech tests.

The above mentioned are the general aspects of speech evaluation of speech therapeutic research, but the process of speech evaluation is changing because of any verbal disorder, age characteristics and other conditions.

The speech therapist carries out the research of the pronunciation of the sounds individually using special topic pictures.

For the research of the pronunciation of sounds the material should include subject pictures collection for different group of sounds. Selection of subject pictures is carried out so that the studied sound is at the beginning, middle and end of the word, as the pronunciation of the sound is different in different positions. Due to this method it's becoming possible to pronounce the group of sounds. For each position of the word sound the speech therapist chooses not less than three pictures, so as to hear and record how the child utters that sound. When choosing a material, it is necessary to take into account that in Armenian there are words that have pronunciation different

from writing, for example, when uttering the word "արշ" ("arj") the sound "շ" (dʒ) is heard "չ" (ch = [tʃ]) and the word sounds as "արչ" ("arch") and so on.

During the research of sound pronunciation, the speech therapist points out the absence, substitution, confusion and distortion of sound. If the child does not name the picture, the speech therapist suggests repeating the words after his/her pronunciation (reflective speech). If the child has a problem with the pronunciation of the pictures names sounds, but he/she can pronounce that sound separately, it means that it is necessary simply to practice that sound in words and phrases.

During the speech research the speech therapist pays attention to the speech rate, clarity, the correct pronunciation of words, the sound of voice. If there are any deficiencies, they are noted in the speech cards. When conducting an individual survey, the speech therapist is writing down all the answers on the speech card, indicating the date of the survey (Logopediya, 2018).

METHODOLOGY

The methodology of information gathering, processing and analysis research is based on a quantitative approach that allows to combine quantitative data collection by using quantitative methods, subsequently being able to draw conclusions from the data, based on established numerical patterns (Tadevosyan, 2006; Tatarova, 1999). The strength side of quantitative research is that no matter how many researchers do it, they would all come to the same / similar conclusions, as the methods and methodologies of revealing social reality are accurate. The following methods were used within the frame of current study:

- Study of the standardized tests usage of speech research in contemporary speech therapy.
- Study of specialized professional literature and theoretical analysis.
- Analysis of children's pedagogical documents in public education.
- Study of speech cards and medical history data, inquiry and testing.
- Tests
- Generalization of results, summarizing qualitative and quantitative data.
- Experimental study.
- Combination of data of experimental study.
- Analysis of mathematical, statistical data (Tatarova, 1999).

The strength side of the qualitative research, in contrast to quantitative research, is that the more a researcher studies the same problem, the more detailed and in-depth information will be

obtained. That is, qualitative research requires a research style, largely influenced by the researcher's outlook and research preferences. If in a case of quantitative research, we introduce the reliability of research, then in qualitative research we introduce the harmony of research and its being reasonable and convincing. The quantitative questionnaire was developed online and the data was collected online. The test was formed with the help of an online program which allowed more clearly to receive information of qualitative and quantitative analysis data. That test was conducted to analyze the objectivity of the speech research process in Armenia. The test included the following questions: *Profession of the responded; The type of activity; Do you find the speech research process important in your work? Do you have any tool to carry out speech research process? What do you think the speech research that carried out by you can be considered objective? Do you use any standardized tests for speech research? Please indicate the tools, methods, resources and standardized tests, which you used in speech research, evaluation process. Can the use of standardized tests promote the efficiency of the speech evaluation process? How would you like a standardized test of speech evaluation relevant to native language to be?*

Participants

The target group of the research is 31 speech therapists and related field specialists: psychologists and art therapists of different ages, from different institutions, cities, villages, regions of Republic of Armenia. They were interviewed using special formed test. Below is the brief information of the research participants (Table 1), as well as their specialization and activities (Table 2).

Table 1. Research participants

Gender distribution		City distribution				
male	female	Yerevan	Stepanavan	Vardenis	Martuni	Sevan
1	30	27	1	1	1	1

Table 2. The activities of the research participants

Type of activity			Specialization			
Student	Lecturer	Practical worker	Speech therapist	Psychologist	Special educator	Art therapist
3	1	27	26	3	1	1

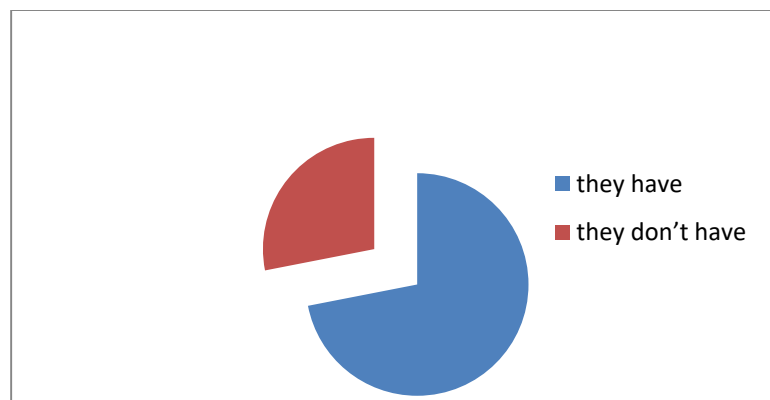
Before filling the test each of the research respondents were provided with the information about the purpose and relevance of research, in order to obtain their consent and permission, to engage themselves and their children as a research participant.

Data analysis

The results of data analysis are:

- 100% of the respondents mentioned the importance of word research, evaluation process in their work. It should be emphasized that not only the speech therapists, but also psychologists, special educators and art therapists participated in the research and they also gave importance to the process of child's speech assessment.
- 81.5% of the respondents stated that they had any tools, methods or recourses to carry out speech research. Only 18.5% of the respondents stated that they did not have a specific tool, method or recourse for this process. However, it should be noted that the last group participates are not speech therapists and the process of speech evaluation is not priority for them (Picture 1).

Picture 1. The availability of tools and methods of speech evaluation



- It seems to be a normal process when a specialist for whom the speech evaluation process is not a priority does not have the tools and resources for speech evaluation. However, 31% of the respondents find that the speech assessment process is subjective and it cannot be considered objective, so other speech therapists may disagree with the diagnosis given by him/her or the course of his/her developed work. It is a worrying indicator. And 72.4% of the respondents find out that their research and results are objective.

- It is believed that if there were common tool, method, resource and standardized test, then the objectivity of the word research and evaluation process would be ensured. However, only 17.2% of respondents mentioned that they use standardized tests, but none of them mentioned the exact test names so we cannot analyze how objective the test results will be. And 82.8% of respondents do not use any clearly standardized tests, even the majority of them mentioned that they use tools, methods and resources developed by them or they combine several methods to obtain reliable information. The question arises, is the objectivity provided in this case?
- 82.1% of the respondents consider that the use of standardized tests of speech research can increase efficiency of this process and will ensure the objectivity of the process. 3.6% of respondents answered no, 3.6% partially, 3.6% situational, 3.6% linked the efficiency of standardized tests to the features of speech disorder, 3.6% consider it was possible.
- Some answers of the following question “How a corresponding native language standardized test of speech research and evaluation should be” are introduced below:
 - Multi-profile.
 - Detailed, coordinated.
 - To be formed based on the typical development of the speech.
 - To be available and useful for the relating field specialists.
 - With simple, clear formulations.
 - To be consist of simultaneous inclusion of phonetic-sound, sound-syllable, vocabulary-grammar aspects.
 - I find it difficult to answer.
 - It's a global issue.
 - Quite detailed and complex.
 - Easy to understand, objective, adopted to the age of child.
 - Dedicated to simple points that would be more visible in practice. I would like to be provided with hinted answer for the specialist and with the analyses of assessment levels of the problem (middle, easy problem, based on).
 - Colorful, illustrated, easy and short.
 - Comprehensive and scientifically-practically tested and proofed.
 - I can't say for sure, yet.

- As simple as possible also for the use of psychologists (but also difficult and accurate so as to trust the results).
- Reliable, trustworthy and measurable.
- Multifunctional and detailed according to the group age and the level of development.
- Practical
- Questions from maternal pregnancy, heredity to a child's specific age should be included in the test.
- In order to really match the native language and be without exaggeration.

RESULTS

The analysis of relevant sources allows us to conclude that in the process of diagnostics and evaluation, speech therapy standardized tests are used in the United States and a number of European countries, however in the Russian Federation standardized tests are not used. They use tests which promote speech research process, but they are not standardized and cannot give reliable and objective assessment results. However, it should be stated that a number of international organizations of our country, Republic of Armenia tend to take the standardized tests of the US and a number of European countries and translate and use them. This has its disadvantage, as it will not reflect the peculiarities of the Armenian language and it will not take into account the educational standards of the Republic of Armenia, so it cannot be useful for specialists in organizing the speech therapeutic research process.

Thus, according to our hypothesis, in the process of speech therapeutic evaluation and research the use of standardized tests will ensure objectivity and will allow to obtain complete and reliable information about the research participant and his/her speech.

Taking into account the above mentioned, we developed a special test for specialists, which allowed us to find out the opinions of specialists working in the Republic of Armenia about speech research and evaluation process.

The results of the test show that all the participates value the word evaluation process in their work, majority of them have some tools, methods and resource that help them carry out speech research, but the other do not have a specific tool, method and resource for this process. It is worrying indicator that a group of specialist considers that the process of evaluating speech, carried by them, is subjective and cannot be considered objective, so other speech therapists may

disagree with the diagnosis or the course of his/her developed work. The majority of respondents find that their research and results are objective and reliable. It should be emphasized that some specialists use standardized speech test, but none of them gives exact test names, so we cannot analyze how objective the test results will be, but at the same time, the majority of does not use any clearly standardized test, even some of them mentioned that they use tools, methods and resources developed by them or they combine several methods to obtain reliable information. And as we thought at the beginning of the study, majority of practice field specialists of the Republic of Armenia find that the use of standardized tests can ensure the objectivity evaluation and diagnostics of speech research, as a result we there will be reliable and trustworthy data, and the specialist will ensure the process of his or her word research. And surely, as a result, we will have a correct and coordinated corrective-development process of speech therapy. It is stated that the more reliable and objective the results of the speech evaluation process are, the more correct the correction process is organized. As a result, the working process of speech therapy becomes more effective. Thus, the process of successful speech research is one of the keys of the success of speech therapy.

DISCUSSION

Based on RA Government protocol decision of Session N1 on January 9, 2014, “A person’s comprehensive evaluation of World Health Organization International Classification of Functioning based on Implementation model of defining disability (hereinafter WHO ICF-CY)” according to which in recent years, in Republic of Armenia, in the scope of the social model holding of defining disability, improvements are carrying out not only in the area of defining disability but also in areas of disability evaluation, disability grade provision, service creation and provision, monitoring, and evaluation (Government of the Republic of Armenia 2014 Annex N 1 to the Protocol on the January 9 Session Decision Protocol Annex 1: Introduction of a Model for Defining Disability Based on the International Classification of Functions of the World Health Organization).

As already mentioned in this work, the WHO ICF-CY allows the use of common language and terminology, thereby recording the problems in organ system or in its functions, limitations of person's activity and participation, as well as the impact of corresponding environmental factors in the period of neonatal, childhood and adolescence (Avetisyan, Ghazaryan & Malkhasyan,

2017). Functional evaluation allows receiving comprehensive, coordinated information about the person who is evaluated. However, our research allowed us to come to the conclusion that during the functional evaluation objective, reliable and trustworthy information, tools, methods and recourses of speech research cannot be used in the Republic of Armenia.

We also came to the conclusion that it is necessary to create standardized test which will allow to do objective evaluation of speech. After the test is created and tested, it will be necessary to pass an independent examination; it means that the best specialists will be involved in this process, to get the best product. But we have to remember that standardized tests are limited however when it comes to planning effective oral and written language intervention. Other, more specific, assessments can be utilized to plan for intervention.

DISADVANTAGES OF THE WORK

- One of the disadvantages of the work is the number of respondents. 31 specialists, practitioners took predication in survey. It should be noted that the location of the research includes not only Yerevan but it also the other regions of the Republic of Armenia. We think that if we could involve more specialists we would have more objective information.
- The chosen methodology is limited, it was necessary not only to satisfy one diagnostic test but also to develop and use other examples of tests to compare the data obtained.
- Lack of relevant sources. Since, many countries do not have standardized tests for speech research, so there is a lack of relevant sources.

PRACTICAL AND SCIENTIFIC RECOMMENDATIONS

- To perform a more detailed analysis of the bibliography.
- To invite a roundtable discussion, to bring together professionals who value the speech evaluation process in their professional work
- To discuss the specifics of the features of speech research and evaluation process, during the roundtable discussion.
- To emphasize the problems which a specialist faces when evaluating speech.
- To create an applicable test for speech research and evaluation.
- To use, practice the created test.

- To improve and develop the created test.
- To use already developed and approved by professionals' test for more than 5000 people.
- To standardize the test.

CONCLUSION

Thus, according to our hypothesis, the use of standardized tests in the process of speech therapeutic evaluation and research will ensure objectivity and will allow to obtain complete and reliable information about the research participant and his/her speech. Our hypothesis is confirmed by our research participants. It is necessary to create speech evaluating diagnostic test corresponding to native language and educational standards of Republic of Armenia and which will be used and we will already receive reliable data on to what extent the use of standardized tests of speech research will promote the efficiency of speech therapy, ensure the objectivity of the speech evaluation process and provide reliable and trustworthy results.

REFERENCE LIST

1. Association of Language Testers in Europe (2014), <https://www.alte.org/>
2. Avetisyan, M., Ghazaryan, T., Malkhasyan, A. (2017) Hashmandamutyun unecogh 2-18 tarekan erekhaneri kensagorcuneutyun, masnacutyun ev mijavayrayin gwrtsonneri gnahatman metodakan dzernark (Methodological Manual for Assessing the Functional Activity, Participation and Environmental Factors of 2-18 Years Old Children with disabilities), Yerevan, Zangak
3. HH karavarutyun 2014t. hunvari 9-i nisti N 1 ardzanagrayin voroshman hayecakarg Havelvac N 1: andzi bazmakoxmani gnahatman arokhchapahutyun hamashkharhayin kazmakerputyun funkcianeri mijazgayin dasakargman skzbunqneri vra himnvac hashmandamutyun sahmanman modeli nerdrman (Government of the Republic of Armenia 2014 Annex N 1 to the Protocol on the January 9 Session Decision Protocol Annex 1: Introduction of a Model for Defining Disability Based on the International Classification of Functions of the World Health Organization)
4. Individuals with Disabilities Education Improvement Act of 2004, Sections 300.301-300.305

5. Gromova, O. E. (2003) Metodika formirovaniya nachalnogo detskogo leksikona v usloviyakh napravlennoy korrekcionno-razvivayushhego obucheniya (Methodological formulation of preliminary childish lexicon in terms of corrective-developmental education): dis. Kand. Ped. Nauk 13.00.03. Moskva.
6. Kaderavek, J. N. (2011) Language Disorders in Children: Fundamental Concepts of Assessment and Intervention, Allyn & Bacon
7. Logopedian gorcnakanum (Speech Therapy in practice) (2017) / A. V. Avagyan ev urishner, Yerevan, Asoghik, ej 19
8. Logopedia. Teoriya i praktika (Speech therapy, Theory and practice) (2018), Moskva, "Eksmo"- 608 s.
9. Miqaelyan, O., Miqaelyan, S. (2010) Yntaciq gnahatman nor hamakargy vorpes krtutyany voraki barelavman mijoc (New system of on-going assessment as a means of improving the quality of education), Yerevan
10. Paylozyan Zh. H., Tadevosyan, E. R. (2009) Khosqayin nyuter jisht hnchartaberman amrapndman hamar (Speech materials to enhance right sound performance), Yerevan, "Yerevani Anania Shirakatsu anvan jemaran krtahamalir" PBY, 78 ej
11. Tadevosyan, G. (2006) Vorakakan swcialakan hetazotutyunner (Qualitative social research), Yerevan, EPH
12. Tatarova, G. (1999) Metodologiya analiza dannikh v sociologii (Data Analysis Methodology in Sociology), M., "Institut Otkritoe Obshestvo".
13. Westby, C., Burda, A., & Mehta, Z. (2003) Asking the right questions in the right ways: Strategies for ethnographic interviewing. *The ASHA Leader*.
14. World Health organization (2001) International Classification of Functioning, Disability and Health (ICF) Retrieved from URL www.who.org
15. Zhukova, N. S. (1994) Preodolenie nedorazvitiya rechi u detey (Overcoming Speech Underdevelopment in Children) Uchebno-metod. Posobie – Moskva: Soc.-polit., zhurnal, 96 s.

MAJOR STAGES OF READING SKILLS DEVELOPMENT

AUTHORS' DATA:

Astghik Grigoryan, PhD in Education, Associated professor

Chair of Speech and Rehabilitative Therapy, ASPU

Lecturer

Contacts: asokg@mail.ru

ABSTRACT

The article introduces major stages and characteristic features of the entire process of reading. The professional literature data illustrate that the reading process is closely linked to the development of verbal communication. Good reading skills at both elementary and middle schools are a guarantee of high academic achievement, and in the heavy flow of information they are a reliable means of orientation, which the learner deals with. A mastery of good reading skills is the path to early-aged learner's further education as well as the most essential means of communication and information transmission in society.

Keywords: reading skills, psychophysiological process, visual perception, sound-symbol relationship, developmental deviations, abstract thinking, expressiveness.

INTRODUCTION

The studies of native and foreign professional literature show that the process of reading and difficulties, which arise throughout the process, are perpetually in the spotlight of specialists. These issues have been included in the scientific works of psychologists, psycho-physiologists, special educators, and speech therapists (Lalaeva & Benediktova, 2001).

The intersystem approach should be applied for the development of reading skills, which are improved as a result of long-term and targeted learning. Interest in reading starts to grow when the student is perfectly capable of conscious reading and has an educative and cognitive motivation. Reading is a complicated psychophysiological process, which incorporates visual, oral motor and speech auditory analyzers and, as Badian (1988) noted, "is based on complex

mechanisms of interaction between a number of analyzers and two signaling systems."(Badian, 1988).

Only complete mental and physiological training can be the basis for a successful school education and will allow to master the complex tasks such as arithmetic, writing, and reading. In the early stages of learning, some children have difficulties with reading and writing. Often parents and teachers view and describe it as laziness, stubbornness, and force the child to read and write extra time, which leads to fatigue and frustration. Of course, this is not the best way to remedy the situation, but on the contrary it causes indifference, mistrust and serious learning difficulties. If one tries to look closely, it becomes obvious that these children find it relatively difficult to learn to read and write in their mother tongue than math, which seems to require more attention and skills. What is the problem about, if the child is not mentally retarded, there are no other problems but he/she is unable to cope with the reading process?

Unfortunately, the disruption of the reading process often occurs at the end of the first grade, which leaves parents in a state of confusion. And only in the second or third year of schooling teachers and parents notice that it is not the result of poor learning, but a much more serious issue for the specialist to deal with (Grigoryan, 2014; Grigoryan, 2016).

LITERATURE REVIEW

Reading is the complex cognitive process of decoding symbols to derive meaning. It is a form of language processing. Success in this process is measured as reading comprehension. Reading is a means for language acquisition, communication, and sharing information and ideas (Ahissar, 2007).

According to Elkonin (2010) the reading is a complex process, which is structured into three major stages:

1. **Word Identification.** To read means to see letters, recognize and understand a word or words that are comprised of corresponding, already familiar letters. Not only our sight, but also our memory, imagination, and mental abilities play a key role in recognition of letters as symbolic signs of a word. In addition to spelling out words, one should be able to guess the whole word by recognizing a letter or two.

2. **Comprehension of the reading material.** Every word that we read must have its interpretation in our consciousness; in some cases, it may appear as a familiar subject or phenomenon, in other cases as a repetition of the perceived word.
3. **Assessment.** An early-aged schoolchild doesn't always have a full understanding of the contents of reading material. Initially, the goal is to learn to read, that is, to master the sound system of words comprised of letters. As soon as the young learner has managed to overcome this stage, another motivation comes into view: to clarify the meaning of words in the text they read. Parallel to the development of reading skills, motivations become more complicated, and the student pursues his or her goal of acquiring more information by reading, assessing the main idea, providing explanations to events and phenomena, and having an occasional critical attitude (Soboleva, 2014).

The reading process is closely linked to the development of verbal communication. The expressiveness of reading is cultivated and developed through verbal communication. Intelligible verbal language gives an opportunity to convey the contents of the text fluently and beautifully. A junior schoolchild's reading comprehension differs from an adult's by a number of qualities:

- Lack of full comprehension of the text
- Slowdown in generalization process
- Lack of practical skills
- A marked directness and emotional excitement
- Difficulties in reproduction of speech sounds

In addition to the above, it is important to take into account the peculiarities of an early-aged schoolchild's cognitive activities. It is very well known that logical thinking is not yet developed at this age; it is of a visual nature and requires the basics of practical activity. The child's mentality gradually acquires visionary and ultimately logical abstract thinking. These gradual stages of a junior schoolchild's cognitive development have their impact on standards of achievement in education (Grigoryan, 2014; Grigoryan, 2016).

The role of adults in shaping children's literacy is crucial, as they are those important persons that surround children with books, read, and introduce them to fiction. If children grow up in an environment where they read and write, they gain a lot of knowledge years before meeting their first teacher. They learn by their own initiative and power, show an amazing ability to be proficient in language, discover the meaning of linguistic structures for themselves, learn to apply

it skillfully, gradually increasing their level of proficiency. This is a hidden advantage for such children, and allows them to enter the learning phase with a sense of urgency and excitement. But if these children gain early literacy experience at home, unfortunately, many are devoid of it for some reason (Soboleva, 2014). Therefore, preschool teachers and elementary school teachers should prepare children for writing and reading. Specialists call this process emerging or pre-literacy. It includes everything that literacy children discover about themselves and what adults teach them (Lyytinen, Erskine, Kujala, Ojanen & Richardson, 2009).

The formative or pre-literacy stage in a child's experience begins when the child first sees the book and wonders how people are using it, and ends when the child is able to read the words themselves (Heim, Wehnelt, Grande, Huber et al., 2013).

It is early formal and non-formal learning that children receive from preschool and elementary school teachers whose main responsibility is to make sure all children understand what reading and writing are and what they serve to maximize reading proficiency.

Because print is the language they speak, children need to understand the language of print and consciously embrace both their spoken language and the features of the print language.

It is proven that people who speak their native language acquire their spoken language skills before going to school. The ability to understand and use language in order to become a reader is essential, but not sufficient. When children learn to read, they need to have a language understanding (Wandell, Rauschecker & Yeatman, 2012).

Since print is a spoken language, beginner readers need to understand that their language is real, not just a noise that accompanies thoughts and actions, but something that can be formulated and written into sentences. They need to realize that sentences are made up of words, and the words spoken are composed of syllables and smaller units called sounds. Students should also gain some knowledge of the printed words, to know what the face of the book is, that the printed word is not the pictures, but the signs that "speak", and that the word is presented at the bottom of the page, and from left to right, as well as a number of other important things (Lalaeva & Benediktova, 2001). Language skills include various components: word, sounds, syntax rules (Wandell, Rauschecker & Yeatman, 2012).

The social use of language is largely unrelated to literacy, but it is important for children to know the certain rules of social behavior when engaging in discussions that help them understand the text and express their thoughts verbally. For example, children should learn to

speak in turn, to allow the speaker to finish the thought, not to deviate from the topic, to agree or to parable. At the same time, it is very important for children to know the meaning of word. If the child doesn't know the meaning of a word and is not familiar with the word he/she would have difficulty learning how to read that word. Instead of focusing on each printed word, such children can slide their eyes around the whole line or look at only one letter or confuse written words with pronounced syllables. Printed word recognition is an important skill that consists of two parts. One is recognizing words at once, as you know your friend's face. This is called general recognition of words as soon as the words are recognized (Wandell, Rauschecker & Yeatman, 2012).

SPEECH THERAPY TASKS WITH CHILDREN

In addition to the word level, there are other levels of speech that beginner readers should be aware of. These are tanks, initials, rhymes, endings and sounds. The syllables are "pulse" of the language (Elkonin, 2010). These are the rhythmic accents that are heard in the words that give rise to the single, double, plural, and multi-word words. The initials or beginning of a word are the first consonant or vowel of the word, and the rhyme or ending is the last vowel, plus any consonant followed by it.

From the point of view of phonetic awareness, there are a number of tasks that are recommended to perform with students:

- to repeat word syllables with clapping,
- to find single ending words,
- to separate single syllable words into sounds,
- to remove one sound from single syllable words,
- to add one sound from single syllable words,
- to replace one sound with single syllable words to get a new word.

The experts of the field note that children who know that words can be divided into sounds and can perform different actions with sounds will find it easier to perform letter-to-word matching when they start reading than those children who are not familiar with sound functions. That is to say, different works of sounds can improve children's reading skills (Agarkova, 2015).

It should be noted that alphabet knowledge is an important component of a child's emerging literacy. Some children learn to recognize most letters before going to school, and teachers expect all children to recognize all the letters of the alphabet at the beginning of elementary school. Letters

of knowledge provide two services, giving children insight into what the child has experienced in communicating with the printed text, and on the other hand helping the child to read easily.

Reading features

At the same time the ability to read is regarded by contemporary teaching methods as automatic verbalization skills. It is crucially important to understand and admit that good reading skills at both elementary and middle schools are a guarantee of high academic achievement. In the heavy flow of information, it is a reliable means of orientation, which the learner deals with. The reading skills development focuses on four qualitative features: accuracy, fluency, consciousness, and expressiveness.

Accurate reading is classified as a process, which combines faultless reading with comprehension of the reading material.

Fluency is the rate of reading conditioned by word recognition and comprehension. The reading rate is measured in the number of characters read per commonly accepted one minute.

Conscious reading is viewed as the perception of the author's intent and artistic means, as well as personal attitude towards the piece of reading material.

Expressiveness is the reader's conveyance of the essential meaning of what has been read to the audience through their own attitude - voice, stress, appropriate phrasing, etc.

These four aspects of reading development are closely interconnected and correlated (Agarkova, 2015).

Without cooperative sound-symbol relationships, the comprehension of separate units of the text is not feasible. The alteration of the meaning of each unit causes discord between them, which in turn leads to the loss of the internal connection of individual components of the text and loss of the meaning of reading material.

Thus, the combination of these four qualitative features is crucial for helping early-aged schoolchildren build their reading skills.

Reading process Stages

The learner's reading skills development passes through the following stages: analytical, synthetic and automatic. Let us consider them one by one.

At the analytical stage, the early-aged learner needs a great deal of effort to be able to read: see the letter, recognize it, utter the corresponding sound of each graphic sign, do the same with syllables, and grasp the meaning of what they have read. Syllable-reading is generally regarded

the initial phase of acquiring literacy and reading skills, which, we should note, is shaped differently for every young learner because all cases are individual.

At the synthetic stage, we can observe the simultaneous function of comprehension and reproduction of a piece of reading material take place. At this stage, the learner can read whole words, but the expressive part of reading is still faulty. It is not enough to read and comprehend separate words in the text; the child should be able to understand the meaning of the entire material.

The automatic phase is characterized firstly by a technically correct reading and, secondly, by the reader's immediate emotional response to their own success, as well as desire to share impressions and declare their position. This stage plays a vital role in the development of reading skills, requiring a number of principles from the teacher trainer:

1. Perform reading activities every day
2. Correct mistakes by giving clarifications and explanations
3. Help develop the ability to read quietly, in whisper and ultimately in mind
4. Texts should be presented to an early-aged learner in manageable chunks
5. The choice of texts should be based on the child's psychological state and stylistic peculiarities of the reading material

Work on accurate and fluent reading is very important at an early age. Reading skills can be improved only when readers fully understand what they are reading. To read correctly means to read without mistakes because the latter are likely to affect reading comprehension.

CONCLUSION

However, in recent years more and more pupils of elementary grades have had difficulty with reading comprehension, which has a negative effect on their writing skills. Specialists refer to these disorders as dyslexia and dysgraphia, which require early detection and subsequent speech therapy, otherwise the whole educational performance may be adversely affected.

There is a genetic predisposition for dyslexia and dysgraphia, which results in it being observed in several family members, even generations (Grigoryan, 2016). Dyslexia is a cause of systemic disorder of higher mental processes, which encompasses not only verbal but also non-verbal mental processes - spatial perception, visual cognition, visual-motor actions, attention, as well as letter graphic processing (Luria, 1992). To understand the mechanism of dyslexia correctly, one must remember that people possess three forms of hearing: semiological, musical, and verbal.

In the case of speech hearing impairment, it is difficult to perceive the sounds close to the sound, the speech perception (Grigoryan, 2016). Of course, a child who does not clearly understand the word addressed to him does not differentiate the sounds as he/she can read correctly. The problem is that the child has to grasp a particular sound in a large flow of speech, combine it with a graphic image (letter), and correctly spell. That is why the reading instruction becomes a difficult pedagogical problem in the case of hearing impairment. In addition to phonetic hearing, a person possesses the ability to perceive the letter in a special way. It is clear to see the surrounding midpoint, yet does not mean to fully imagine the graphic image of the sound - the letter (Ahissar, 20017).

Studies have made it possible to identify a number of errors that early-aged schoolchildren tend to make.

1. Sound-symbol deviations, which are as follows:

- ✓ Omission of letters, syllables, even phrases
- ✓ Relocation of letters, syllables and words
- ✓ Addition of new units, or replacement of one unit with another

Such errors can be caused by both visual and articulation deviations.

2. Another frequently committed error is repetition of words, syllables and sentences. As a rule, repetition is caused by the fact that the reader tries to set down a new piece of reading material in his or her own memory. Keep in mind that at the above-mentioned analytical stage such repetitions are regular and expected, and should not be regarded as wrong unless they hinder progress towards further stages.

3. Literally correct speech deviations. This sort of reading errors include wrong pronunciation, wrong accent and intonation, as well as "orthographic reading." The latter is typical for the initial stage and means reading the way words are spelt out, not as they sound. The sooner the student will be able to combine and coordinate all the stages of the reading process, the faster "orthographic reading" phase will be over.

The discovery of a predisposition to students' reading difficulty allows them to perform specific tasks of studying the verbal and non-verbal mental processes underlying the reading process. According Lalaeva (2001) the late detection of reading difficulties brings significant difficulties in learning processes and requires long-lasting corrective intervention (Lalaeva, Benediktova, 2001). Earlier detection of a particular difficulty positively results in ongoing

pedagogical work and, of course, allows for the prevention of secondary emotional and behavioral disorders (Grigoryan, 2016).

Thus, a mastery of good reading skills is the path to early-aged learner's decent education afterwards. It is considered to be the most essential means of communication and information transmission in society.

Each student goes through all of the above-mentioned stages of reading development in their own way. The reading skills development entails a highly coordinated and specific type of pedagogical work.

REFERENCE LIST

1. Agarkova, N. G. (2015) Azbuka. Obucheniye gramote i chteniyu (Learning reading and writing). 1 class. Metodicheskoe posobie, N.G. Agarkova, Yu. A. Agarkov - M.: Akademkniga/Uchebnik. - 208 s.
2. Ahissar, M. (2007) "Dyslexia and the anchoring-deficit hypothesis". Trends Cogn. Sci. (Regul. Ed.). 11 (11): 458–65. doi:10.1016/j.tics.2007.08.015
3. Badian, N. A., (1988) The prediction of good and poor reading before Kindergarten entry: A nine-year follow-up, Journal of Learning Disabilities, Vol. 21. 98-123.
4. Elkonin, D. B. (2010) Eksperimentalniy analiz nachalnogo etapa obucheniya chteniyu (Experimental analysis of the initial stage of reading instruction), Voprosi psikhologii uchebnoy deyatel'nosti mladshikh shkolnikov - M.: Izdatel'stvo Prosvesheniya - s. 7-50.
5. Grigoryan A. G. (2014) Disleksiayi nakhatramadvratsutyanyan bachahaytman hetazotutyanyan ardyunqneriy (Results of a dyslexia predisposition study), Hatuk krtutyanyan himnakhndirneri gitakan handes N1, Yerevan, 58-65
6. Grigoryan A. G. (2016) Disleksiayi arajacman patjarnery ev kankhargelman ughinery (Causes and Prevention of Dyslexia), Mankavarzhakan mitq, Zangak, Yerevan, 89-93
7. Heim, S., Wehnelt, A., Grande, M., Huber, W., Amunts, K. (2013) Effects of lexicality and word frequency on brain activation in dyslexic readers". Brain and Language.
8. Lalaeva, R. I., Benediktova L. V. (2001) Diagnostika i korrekciya narusheniy chteniya i l' pisma u mladshikh shkolnikov (Young schoolers writing problems' diagnosis and correction). - SPb.: Izdatel'stvo "SOYUZ" - s. 3-88.

9. Luria, A. R. (1992) *Visshie korkovie funkcii cheloveka i ikh narusheniya pri lokalnikh porajeniyakh mozga* (Higher cortical functions of a person and their disorders in local brain lesions). - M: Prosveshenie. - s. 432.
10. Lyytinen, H., Erskine, J., Kujala, J., Ojanen, E., Richardson, U. (2009). "In search of a science-based application: a learning tool for reading acquisition". *Scandinavian Journal of Psychology*. 50 (6), 668–75.
11. Soboleva, A. E. (2014) *Kak podgotovit rebenka k obucheniyu gramote* (How to prepare your child for literacy), A.E. Soboleva. - M.: Detstvo-Press. - 112 s.
12. Wandell, B. A, Rauschecker, A.M., Yeatman, J.D. (2012). "Learning to see words". *Annual Review of Psychology*, Vol. 63, 31–53.

**SPEECH THERAPY INTERVENTION WITH ARMENIAN-SPEAKING CHILDREN
HAVING SOUNDS PRONUNCIATION DISORDERS**

AUTHORS' DATA:

Geghecik Grigoryan, PhD in Education

Chair of Speech and Rehabilitative Therapy, Khachatur Abovyan Armenian State University

Lecturer

Head of Adaptation Unit in the Republican pedagogical-psychological center

Contacts: g.grigoryan77@mail.ru

Gohar Hovyan, PhD in Education, Associated professor

Chair of Speech and Rehabilitative Therapy, Khachatur Abovyan Armenian State University

Lecturer

Contacts: gohar.hovyan@mail.ru

ABSTRACT

The purpose of this study is to present the peculiarities of speech therapy intervention with children with dyslalia and to analyze the specific patterns of Armenian speaking children sound pronunciation and speech perception, speech therapy conditions for overcoming speech problems, the relevance of teaching methods in the process of formation of pronunciation functions, which will contribute to the improvement of dyslalia under the application of appropriate methodic.

The methods of studying and analyzing the leading pedagogical experience of the teachers and speech therapists has been investigated within the frame of this research pedagogues and teachers, as well as the methods of psycho-pedagogical research: observation, conversation, inquiry were used. Different types of dyslalia, peculiarities of the speech therapy process, the rules of professional practice through the way of presentation and analysis of private cases, has been observed and analyzed, for exact determination of the direction and extent of speech therapy intervention in accordance with preventive interventions.

Scientific justification of the appropriate methodological requirements, tools, and techniques used in the process of overcoming speech disorders of Armenian-speaking children is more effective if the speech therapy prevention techniques are used on early stages, as well as the methods of correcting dyslalia in accordance with the rules of Native language teaching enable effective speech therapy work in general education. This kind of systematic approach enables accounting the unique regularities of the Native language (in this case, the Armenian language); identify, evaluate, and coordinate sound pronancation disorders of mainstream school students; to implement the process of ontervention for overcoming speech problems of children with speech disorders.

Key words: dyslalia, speech therapy intervention, pedagogical-psychologiact support, sound system, ways and methods of overcoming Armenian-speaking children speech disorders, prevention.

INTRODUCTION

The detection, study, diagnosis, prevention, and correction of speech disorders are the most important tasks of speech therapy that substantiate the specifics of the organization of speech therapy intervention for children with dyslalia based on the preventive intervention plan (Muñoz & Córcoles, 2015). The timeliness of the chosen topic is conditioned by the timely demands of educational and social adjustment and is substantiated by the fact that the children with dyslalia require the choice of remedial methods, remedies, and options, according to the preventive intervention plan.

The speech therapist sets goals in the process of correcting dyslasia, with appropriate, specific methods, which are developed for the purpose of determining the small steps to achieve the long term goals (Acosta, 2012; Grigoryan, 2016; Grigoryan, 2018). First of all, the preventive intervention plan includes Specific, Measurable, Actionable, Realistic, Time constrained (SMART) goals. The goals set are summarized in the Achievements section, and the plan is drawn up for one semester (Acosta, 2012; Muñoz & Córcoles, 2015). With regard to pedagogical-psychological support services, the organization of educational-methodological, psychological, pedagogical, and speech therapy support is provided to the child, his or her parent, and teacher during the speech therapy intervention period. It is also important that the child's parents, friends,

educators, and other professionals work together to provide support that will enhance child's self-esteem, activity, and participation in school, family life, and the society.

Thus, according to the order of the provision of pedagogical-psychological support services for the organization of education, the child assessment process is carried out in two phases, at the school and regional levels.

Observations conducted within the frame of current study allowed to evaluate the sequence of goals used in the organization of speech therapy intervention and speech correction of children with dyslalia, as well as the importance of tasks, and the effectiveness of the features of a preventive intervention plan (WHO ICF-CY, 2017; Gavrishov, 2016). It is also very important to state that in contrast with Individual Learning Plan, the preventive intervention plan is made in shorter term. Speech therapy intervention with children with dyslalia according to the intervention plan enables speech therapist to set goals by phases.

Research conducted within the frame of this study has been organized in several interrelated phases, during which the actual theoretical materials were collected from Republican pedagogical-psychological support centre, secondary school № 145, inclusive school № 37 in Yerevan, and inclusive school №1 in Gavar. The information related to children with dyslalia and the peculiarities of speech therapy intervention was collected (Gavrishov, 2016).

Apropos speech therapy intervention, which has long been focused on addressing speech problems, has become more effective and applicable. It allows the specialist to properly organize the process of speech therapy intervention (Grigoryan, 2017).

LITERATURE REVIEW

The speech development of children is highly significant. It is an important indicator of the development of children's cognitive abilities which is very important for later school achievements. Vardanyan, Hovyan, Amirbekyan and Grigoryan (2008) reflect to the practical tasks used in speech-language practice of speech disorders and to the writing skills of school-aged children. Different types of dyslalia presented with different speech disorders, starting from acoustic-phonetic, pronunciation-phonetic, and finishing with disturbances in the formation of the phonetic side of speech due to the sensory link of the speech perception mechanism. In addition, the children with such a problem cannot distinguish this or that acoustic feature of a complex sound that usually makes it possible to contrast the sounds (Vardanyan, Amirbekyan,

Hovyan & Zohrabyan, 2007). As a result, the child perceives one sound instead of another, due to some commonalities. The substitution of one sound for another is taking place. Failure to recognize one or more of these attributes may misinterpret the sound, therefore also the word composed with that sound. This disadvantage interferes with understanding one's own words as well as those of others (Sukiasyan, 1999; Grigoryan, 2013).

In the process of literature review, the most important factor that has been taken into account was that the plan of preventive intervention was incorporating with the SMART goals which should in that particular case be drawn up taking into account the various forms of distal expression, including acoustic-phonetic, extracorporeal-phonetic-phonetic features (Vardanyan, Hovyan, Amirbekyan, Grigoryan, 2007). The suggested materials in Speech therapy in practice manual can also be helpful for parents (Speech Therapy in practice, 2017).

Grigoryan and Hovyan (2016) investigated the leading pedagogical experiences of teachers and analyzed the significance of the correlation between the central nervous system and verbal activity. The sounds of the language, as the only characteristic of human beings, are developed within a child during several years from birth. This process includes the brain and speech apparatus. They are controlled by the central nervous system. Therefore, injuries to this system also have a negative impact on the formation of sound and pronunciation. The process of the sound pronunciation can be caused by deviations, temporal disturbances, mismatches, etc (Grigoryan & Ovyanyan, 2016; WHO ICF-CY, 2017). Within the current study the peculiarities of the speech therapeutic intervention with Armenian-speaking children having dyslalia have also been touched upon.

Grigoryan (2013) in her article “Peculiarities of Speech Therapy in Correction of Speech Disorders” highlights the importance and the application of the preventive intervention plan, which incorporates the SMART goals of speech therapy intervention and the correction of dyslalia and other speech disorders. According to Jahukyan (2003) the phonetic diversity of minimum material units of language and the duration of the child's mastery of the phonological system is directly connected with the complexity of language sounds. The child should learn to perceive and reproduce the sounds. At the same time, it is necessary to recognize the sound with its distinctive features in which one sound contrasts with another. If a child does not learn to do this task, he will not be able to distinguish one word from another and recognize it as an identical in different word segments (Jahukyan, 2000). During the development of speech, a child's

phonetic hearing is formed. This enables the recognition of sounds (speech phonetic casing). Phonetic hearing is primarily formed during the development of speech. It also develops audible listening, which is used to keep track of sounds in a continuous stream of syllables. Since the sounds are voiced by the pronunciation, it is important that these sounds be delivered in a regulated manner, that is, the standards adopted for the particular language system. Otherwise, they will be hard to be perceived by the listener (Sukiasyan, 1999; Jahukyan, 2000).

A comparative analysis of the prevalence and communication peculiarities of speech disorders in Armenian-speaking, Russian-speaking and English-speaking children was made in the literature review process and it was confirmed that existing research has so far been carried out only in a limited number of separate studies and by very few authors [Jahukyan, 2000; Acosta, 2012; Grigoryan & Ovyanyan, 2016).

Munoz and Corcoles (2015) have analyzed some of the speech disorders of children with dyslalia and the problems presented in children with speech disorders that are directly related to the organs involved in breathing and sound formation. While Acosta (2012) reflects on speech therapy features of practically often allied sound disorders, which mainly presents not only the complicated process of forming the phonetic side of speech, but also the child's communicative abilities, speech perception, and reproduction of the voice-controlled process.

According to many authors, the development of phonics should be seen not only as an important factor in beautiful communication, but also as an important issue in the teaching of the mother tongue, as insufficient development of the phonetic system, problems with sound perception substantially complicate students' learning and, at times, literacy.

As much as the recent decades of research in Armenian speech therapy has addressed the issues of the organization of speech therapy intervention for different speech disorders, it should be emphasized that the problems of overcoming speech disorders in Armenian-speaking children are, however, not fully theoretically and practically covered. It is no coincidence that even the majority of the urban population have no idea of the speech therapy service and, moreover, of the professional approaches and methods provided and demonstrated in speech disorders (Grigoryan & Ovyanyan, 2016; Grigoryan, 2017).

METHODOLOGY

Participants and data collection

More detailed research of the speech therapy intervention with children with dyslalia in accordance with the Preventive Intervention Plan Research was conducted within the frame of this study which has been organized in several interrelated phases in the following placements: the Republican pedagogical-psychological support centre, secondary school № 145, inclusive school № 37 in Yerevan, and inclusive school №1 in Gavar. The information related to children with dyslalia and the peculiarities of speech therapy intervention was collected (Gavrishov, 2016).

The following research methods were used while data collection and data analysis:

- Study and analysis of professional literature;
- Study and analysis of the leading pedagogical experience of teachers;
- Study and analysis of medical and pedagogical documents of students with speech disorders;
- Observation, conversation, inquiry, examination, testing with speech cards;
- Pedagogical experience: confirming, and teaching,
- Using mathematical methods to generalize qualitative and statistical results.

The research materials were used to correct school-level disorders with a primary school assessment tool, which resulted in children with speech-language disorders. The speech therapy intervention on the problem-solving regarding speech-language-impaired children in different educational institutions was carried out with the help of theoretical and experimental methods.

Our research is completely presented in several interrelated phases. The results of the expert research phase were the basis for organizing and conducting a two-year teaching pedagogical experiment (2016-2018). In total, 172 children with speech disorders participated in the whole study, of which 86 (from first to fourth grade) participated in the expert survey (2016-2018). Of the tested learners, 56 are boys (65%) and the rest are 30 girls (35%). This phase of the study was conducted with social speechwriters and teachers (120), parents (110), students (74) on social awareness of speech impairment corrective learners. It was carried out through using developed questionnaires.

A preventive intervention plan has been developed for first to fourth graders in the field of speech therapy. The first page of the plan outlines the areas for special education needs and the

problem of speech, that is, what to work on. Appropriate specialist (speech therapist, special educator, psychologist, occupational therapist) has worked in each relevant field.

As the insufficient development of the phonetic system, problems with sound perception substantially complicate students' learning and, in particular, literacy, the issues of spelling and orthography in the preventive intervention plan, as they are targeted at correcting speech disorders were also addressed.

Within the frame of research, methodological assignments were suggested: study of ontogenesis of speech development of Armenian speaking children with speech disorders, determination of the degree of speech disorder, elucidation of the causes of speech disorders, development of methods for assessment of speech disorders, and intervention methods (Vardanyan, Hovyan, Amirbekyan, Grigoryan, 2007).

Data analyses

Through analyzing the results of the survey by age of the children, it becomes obvious that accurate and complete sound pronunciation rates are increasing from grade to grade. Thus, if in the first grade 23.6% of respondents had positive indicators of speech disorder correction, in fourth grade the number increase till 46.5%. In experimental group, after speech therapy intervention good and satisfactory results were distributed as follows (Table 1.)

Table 1. Positive indicators of speech therapy intervention according to grades.

Grade	Good	Satisfactory
First grade	51.6%	48.4%
Second grade	58.3%	41.7%
Third grade	53.3%	46.7%
Fourth grade	50%	50%

It is obvious that the positive results in overcoming the problems of sound pronunciation in the experimental group are more noticeable. But, still despite the fact that positive results are quite obvious, the indicators studied in the control group in the fourth grade still remain low and the impairment of sound pronunciation is not overcome. Whereas, the problems of the experimental group's students in the fourth grade are almost solved.

In this regard, the special attention should be paid to the need for the use of appropriate methods of preventing and correcting dyslalia and to continuing cooperation and training with native language teachers in elementary classes.

The rationale of the study

The rationale and reliability of the research results are ensured by a sufficient number of participants, the amount of work carried out, the use of modern and relevant research methods, and the thorough statistical processing of the actual experimental material.

RESULTS

The reliability and validity of the research results have been emphasized by a methodological approach based on scientific achievements in different fields, realization of systematic methods appropriate to the research objectives and the nature of the research findings, application of modern statistical methods, and detailed introduction of qualitative and quantitative results.

The development of unique means, methodological approaches and their implementation in the teaching of Armenian-speaking children with speech disorders have been implemented in accordance with the preventive intervention plan. Experiential special assignments, exercises and games for correction and rapid development of speech abilities were offered for overcoming phonetic disorders, phonetical perception skills.

The results of the research also indicated the existence of a number of issues not addressed within the frame of this, both theoretically and practically.

An overview of the experience of mainstream and inclusive schools as well as investigation of the intervention conducted by the speech therapists' working in the Republican Pedagogical-psychological support center have shown that scientific studies aimed at correcting phonetic disorders do not fully satisfy the process of correcting speech disorders of children with dyslalia. As a rule, they are not applied in the practice and require multilevel and extensive studies.

Consequently, there is a need for development new methodological system for correction of speech disorders, as well as new programs, materials, methodological approaches and techniques for both specialists working in the field and parents.

This speech disorder, which is more common in elementary school, impedes the realization of the learning process as it is characterized by persistent and repetitive phonetic errors, and forms a basis for both phonetic and pronunciation functions.

In this regard, the development of a preventive intervention plan should pay particular attention to the need to apply appropriate methods of preventing and correcting dyslalia and to cooperating and continuing training with native language teachers in elementary school. For the solution of the existing problem, we consider the introduction and application of methods of correction of dyslalia which, in accordance with the regularities of teaching the mother tongue, will enable to carry out effective speech therapy intervention in general education.

We consider very important to emphasize the fact that in the case of speech therapy intervention, the peculiarities of the native language, and in this case, of the Armenian language, are not taken into account. This justifies the need to develop a plan we have chosen to substantiate the relevant methodological requirements, tools, and techniques used in the process of correcting speech disorders in Armenian-speaking children. In this case, using a preventive intervention plan can more effectively help students with speech disorders if:

- the prevention of dyslalia of Armenian-speaking children, assessment of verbal need, correction, organization of consulting activities, practical methods and means are clarified;
- methods of correction of dyslalia in the speech therapy intervention process, which, in accordance with the regularities of the teaching mother tongue are used in order to enable effective speech therapy intervention in general education.

Thus, the methodological analysis of the speech therapy intervention and the correction of the speech disorders, as well as the results of the research allows to prove that the complex methods of correcting the pronunciation of the Armenian consonants used in the elementary school are mainly aimed at the learners unmistakable phonetic formation as much as it is possible. However, in this work there are almost no approaches to speech therapy intervention that are appropriate to the native language practice of students with speech disorders in the grades 1-4.

It is interesting to note that the speech therapists did not attach importance to the use of systematic methods in correcting speech disorders and did not conform to the practice of teaching their native language. Despite this circumstance, however, the testers have positive indicators of overcoming the problems of sound pronunciation. Under these conditions, only 34 of the 86 participants in control group (29.4%) had the correct sound pronunciation (Table 2). Through

analyzing the results of the survey by age, it is not difficult to notice that accurate and consistent sound prononcation rates are increasing from grade to grade. Thus, while 23.6% of the participants had positive indicators of correction of speech disorder, in the fourth grade the number increses till 46.5% (Table 2).

Table 2. Positive indicators of dyslalia correction.

Grade	Photics level	Experimental groups															
		Experimental goup n=86				Control group n=86											
		I grade n=31		II grade n=24		III grade n=15		IV grade n=16		I grade n=31		II grade n=24		III grade n=15		IV grade n=16	
		Before experiment		After experiment		Before experiment		After experiment		Before experiment		After experiment		Before experiment		After experiment	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
I	Good	-	-	16	51.6	-	-	10	33								
	Satisfactory	17	54.8	15	48.4	16	51.6	15	48								
	Insufficient	14	45.2	-	-	15	48.4	6	19								
II	Good	-	-	14	58.3	-	-	9	37.5								
	Satisfactory	14	58.3	10	41.7	12	50	10	41.8								
	Insufficient	10	41.7	-	-	12	50	5	20.7								
III	Good	-	-	8	53.3	-	-	5	33.3								
	Satisfactory	10	66.6	7	46.7	10	66.6	7	46.7								
	Insufficient	5	33.4	-	-	5	33.4	3	20								
IV	Good	-	-	8	50	-	-	7	43.7								
	Satisfactory	8	50	8	50	8	50	7	43.7								
	Insufficient	8	50	-	-	8	50	2	12.6								
Total	Good	-	-	46	53.5	-	-	31	36								
	Satisfactory	49	56.9	40	46.5	46	53.4	39	45.4								
	Insufficient	37	43.1	-	-	40	46.6	16	18.6								

In the context of speech therapy intervention, the developed systematic approach will allow accounting the unique patterns of the mother tongue, in this case the Armenian language, to identify, evaluate and coordinate the phonetic disorders of secondary school students, to contribute the learning process of children with speech disorders, to form a basis for both sound and pronunciation transactions.

Based on the purpose of the study, the following objectives for speech therapy intervention were planned:

1. To study and evaluate the speaking abilities of Armenian-speaking children in the educational process and to select effective speech therapy methods for speech development.
2. To analyze the specific patterns of development of phonetic perception of children with speech disorders, the speech therapy intervention conditions, the relevance of teaching methods in the formulation of extracurricular functions that, in the application of appropriate methodology, will contribute to the improvement of dyslalia.
3. To define the speech therapy methods for overcoming the speech disorders of Armenian-speaking children in the Preventive Intervention Plan, and experimentally substantiate their effectiveness.

DISCUSSION

The main findings, conclusions, and results of the study will be discussed during the developing professional seminars, training and lectures, and at the same time may serve as a basis both for the introduction of new research and practical experience. Thus, studies on the correction of dyslalia in elementary school, which include the investigation of phonetic features of the Armenian language system and the speech-language skills of Armenian-speaking children, allow for the detection of dyslalia corrections. The use of theoretically and scientifically grounded methods and tools aimed at develop the characteristics of Armenian-speaking children makes the correction of dyslalia more effective and perfect based on the features of the mother tongue.

The timely organization of speech therapy intervention with students with speech disorders contributes both to the development of children's speech, as well as to the complete formulation and social adaptation of the written word process (Jahukyan, 2000; Grigoryan, 2013; Grigoryan & Ovyan, 2017; Complite Speech Therapist reference, 2011).

Pedagogical observations and assessments of the efficacy of speech therapists' intervention working with students with speech disorders enabled them to coordinate the needs of speech therapists and the needs of Armenian-speaking children with dyslalia, which are systematically tailored to the research objectives and the nature of the research findings.

The analysis of the experimental data allows to prove that the disorders of the students connected with phonetics in the elementary school are not completely overcome, which proves that incompleteness of the speech work performed or the performance of the work which is incompatible with the native language.

Thus, multivariate analyzes of the causes of phonetics deficiencies allowed assessing learners' perception and hearing impairment, identifying problems that arise in the distinction of phonemes (phonemes and deaf consonants, syllables, and syllables), followed by difficult syllables. At the same time, the deficiencies of the phonemes, which are expressed by the substitution and confusion of the sounds in the words, have in turn made it difficult to develop the phonetic hearing and lead to disorders of writing and reading (Grigoryan, 2013; Grigoryan, 2016; Grigoryan & Ovyan, 2016; Muñoz & Córcoles, 2015).

Coordinating unique Armenian patterns in the process of correcting dyslalia allowed us to assess learners' coping abilities, realize the process of coping with Armenian-speaking children, and develop the ability of young students to develop sound perceptions. Such a systematic approach in the context of speech therapy intervention will allow to determine the efficiency of correcting dyslalia in accordance with the native language as a key indicator of the development of phonetic and articular functions (Ter-Grigoryan, 1980; Pokladova & Razumova, 2005; Efimenkova, 2016; Grigoryan, 2017).

The research once again proves that in the process of correction of speech disorders while organizing speech therapy intervention, the development of methods of assessment, coordination, correction methods and measures, principles, improvement of preventive methods should be taken into account and emphasized (Efimenkova, 2016; Soshikova, 2018).

CONCLUSION

Thus, emphasizing the sequence of goals specified in the organization of speech therapy intervention and speech correction while working with children having dyslalia, the importance and effectiveness of tasks under the preventive intervention plan becomes very important. In the

conducted research speech-specific features were specifically distinguished starting from the neutral condition to sound production (Jahukyan, 2003; Acosta, 2012).

Within the frame of this study, at the first stage, the traditional means of carrying out speech therapy intervention, provided information on the content of the training, the rules, the functions of each, and the actions, and developed the pronunciation skills that were considered necessary for sound were strongly emphasized (Ter-Grigoryan, 1980; Speech therapy in practice, 2017).

In the second phase of the pedagogical experiment, unlike traditional means of correcting speech problems, children with dyslalia, according to the developed methods and conditions performed certain tasks and exercises in the development of pronunciation abilities and skills before proceeding to the actual stage of sound production. Those tasks refer also to the development of hearing, the observation of sounds in a continuous stream of syllables. Since the sounds are voiced using the voice, it is important that these sounds are delivered in a regulated manner, that is, the standards adopted for the particular language system. Otherwise, they will be hard to hear and recognize. To this end, various exercises and tasks have been performed using a variety of pronunciation exercises and tasks, with consonant rules and a certain sequence.

The sequential performance of game exercises and tasks is aimed not only at developing perceptions of children with dyslalia, but also in the development and improvement of a large number of repetitive singular movements, in the development and improvement of phonetic functions and sound perception. With the above mentioned principles in mind, the process of overcoming the problems of the Armenian-speaking children and the development of the vocational perception of the young pupils was implemented.

Within the frame of speech therapy intervention, this kind of systematic approach has been enabled to determine the effectiveness of correcting dyslalia in accordance with native language norms as a key indicator of the development of phonetic and articular functions.

REFERENCE LIST

1. Acosta, R. (2012) Logopedic intervention in specific language disorders. *Journal of Speech Therapy, Phonetics and Audiology*, 32, 67-74.
2. Arokhjapahutyán hamashkharhayin kazmakerputyán, funktsionalutyán, hashmandamutyán ev aroghjutyán mijazgayin dasakargum. erekhaner ev eritasardner. (World Health Organization

International Classification of Functionality, Disability and Health, Children and Youth) FMD-EE, 2017, pashtonakan hayeren targmanutyun

3. Efimenkova, L. N. (2016) Organizacii I metodi korrekcionnoy raboti logopeda na shkolnom logopunkte (Organization and methods of correctional work of a speech therapist at a school speech center), L. N. Efimenkova, G.G. Misarenko – M.: Prosvesheniye, s.240.
4. Gavrishov, E. (2016) Quest-igrowaq forma kompleksnogo resheniya obrazovatelnykh zadach w korrektsionnoy gruppe; E. Gavrishova, O. Berezka, S. Zvyagintseva, V. Milemko, Doshkolnoe vospitanie (Quest – game form of a complex solution of educational problems in a correctional group) №5. - s. 79-84.
5. Grigoryan, G. F. (2017) Didakticheskie osnovi logopedii (Didactic basics of speech therapy), “Sovremennoe obrazovanie”: Aktualniye voprosi, dostizheniya I innovacii: sbornik statey XI mejdunarodnoy nauchno-prakticheskoy konferencii. Penza, s.157-160.
6. Grigoryan, G. F. (2013) Khosqayin khangarumneri shtkman gorcyntacum irakanacvogh logopedakan ashkhatanqi arandznahatkutyunnery (Peculiarities of Speech Therapy in Correcting Speech Disorders), “Kantegh” gitakan hodvacneri joghovacu N 2(55), Yerevan, Asoghik hratarakchutyun, ej 252-258
7. Grigoryan, G. F. (2016) Rol art-terapii pri vedenii korrekcionnykh rabot s detmi s rechevimi rasstrojstvami (Role of Art therapy while organizing intervention with children with speech disorders), “Nauchniy potencial” Nauchno-issledovatel'skiy institute pedagogiki i psikhologii N 22(22), Cheboksari, s. 23-29.
8. Grigoryan, G. F., Ovyanyan, G. R. (2017) Aktualnost problem korrekcii zvukoproiznosheniya u detey s narusheniyami rechi (Relevance of the problem of correcting sound pronunciation in children with speech disorders). “Sovremennoe obrazovanie”: Sbornik statey X mejdunarodnoy nauchno-prakticheskoy konferencii. Penza, s. 101-106.
9. Grigoryan, G. F., Ovyanyan, G. R. (2016) Hayakhos erekhaneri hnchartaberman khangarumneri shtkman arandznahatkutyunnery (Peculiarities of correcting speech disorders of Armenian-speaking children) “Kantegh” gitakan hodvacneri joghovacu N 4(69) Yerevan, Asoghik hratarakchutyun, ej 127-135
10. Jahukyan, G. B. (2003) Universal theory of language, Ann Azboz; p. 335.
11. Jahukyan, G. B. (2000) Hayoc lezvi tesutyanyan ev patmutyanyan himnaharcery, Yerevan – Beyrut, 406 ej

12. Logopedian gortsanakanum (Speech therapy in practice) (2017), heghinakayin hratarakchutyun 76 ej, ej 4-7
13. Muñoz, P. R., Córcoles, S. C. (2015) Language disorders, Early indicators of language disorders, Language Intervention Center: 11, 57-61.
14. Pokladova, T. A., Razumova, Yu. R. (2015) K oprosu o korrekcii narusheniy zvukoproiznosheniy u detey s dislaliley (On the issue of correcting sound pronunciation disorders in children with dyslalia), Razumova Yu. R., Burova N. I., Teoriya i praktika obucheniya i vospitaniya detey s ogranichennimi vozmojnostyami zdorovya: sbornik nauchnikh statey po itogam nauchno-issledovatel'skoy raboti prepodavateley I studentov fak. korrek. pedagogiki ChGPU za 2014-2015 ucheb. god. - Chelyabinsk, s. 137-141.
15. Polniy spravochnik logopeda (Complete speech therapist reference) (2011), Avtor soatav. L. Smirnova, - Minsk: Kharvest, - 384 st., s. 247-253.
16. Soshnikova, N. G. (2018) Artikulyacionnaya gimnastika kak sredstvo korrekcii zvukoproiznosheniya u detey doshkolnogo vozrasta s dislaliley (Articulatory gymnastics as a means of correcting sound pronunciation in preschool children with dyslalia), Soshnikova N.G., Efanova E.V., Mir specialnoy pedagogiki i psikhologii: nauchno-prakticheskiy albom – Moskva, s. 135-138.
17. Sukiasyan, A. M. (1999) Zhamanakacic hayoc lezu. Hnchyunabanutyun, baragitutyun, barakazmutyun (Modern Armenian language. phonetics, lexicology, vocabulary). 3-rd hratarakchutyun, Yerevan, ERH hrat., ej 157-250
18. Ter-Grigoryan, A. E. (1980) Hayoc lezvi dasavandma metodika; tarrakan dasaranner (Methodics of teaching Armenian language; elementary classes) Yerevan, 564 ej, ej 327-331
19. Vardanyan, A., Amirbekyan, G., Hovyan, G., Zohrabyan, Z. (2007) Gravor khosqi khangarumneri shtkman ughghvac varjutyunneri dzernark (Handbook of exercises to correct writing disorders), HH KGN KAI, Usumnametodakan dzernark, Asoghik gratun, Yerevan, 25 tp. mamul, ej 13-17
20. Vardanyan, A., Hovyan, G., Amirbekyan, G., Grigoryan, G. (2008) Yerekhaneri hnchartaberman terutyunneri shtkman ashkhatanqner (Correction of defects in children's sound performance) HH KGN KAI, Dzernark logopedneri hamar, ej 4-9, 13-19, 28-31

**ATTITUDE OF SAMAGRA SHIKSHA ABHIYAN SPECIAL TEACHERS TOWARDS
INCLUSION OF THE CHILDREN WITH DIVYANGJAN IN NAGPUR**

AUTHOR'S DATA:

Madhavi Sharma, Dr., Associated professor

Faculty of Special Education, The ICFAI University Tripura, Agartala, India

Principal

Contacts: drmadhavi.sharma@iutripura.edu.in

ABSTRACT

The rationale of the study is to analyze the “Samagra Shiksha Abhiyan Special Teachers attitude towards Inclusion of the Children with Divyangjan in Nagpur. The study is a descriptive research design used by survey method. The views of inclusive teachers in the areas of attitude towards concept of Inclusion, attitude towards strategies to improve Inclusion and attitude towards collaboration between inclusive teachers and regular teachers. The sample size of the study was 100 inclusive teachers’ (male 50 and female 50), from Government schools working in Block Resource Centre under SSA, Nagpur. The results showed that there is no significance difference among the inclusive teachers towards Inclusion of the children with Divyangjan with respect to age, gender, educational qualifications and teaching experiences. Age, Hence the researcher has been rejected the hypotheses at 0.05 levels. As the study shows that attitude of inclusive teachers towards Inclusion of the children with Divyangjan was highly positive.

Key words: Divyangjan - Intellectual disability, Inclusion, Samagra Shiksha Abhiyan (SSA), inclusive teachers, general teachers, children with Divyangjan.

INTRODUCTION

The term Inclusion makes provision for learning of all children in the classroom. The general teacher becomes the facilitator. The general school adapts to the needs of every child in the classroom. The principle of Inclusion states that the general teacher should be the facilitator for learning (Bowman, 1986). This responsibility does not limit only to the classroom but goes much beyond it. Inclusion also envisages that general school would adapt to the needs of every

child in the classroom. The UNESCO Resource pack was the first step in developing classroom strategies, which will benefit all children. Globally there is tremendous awareness about the importance of developing inclusive learning environments (Bowman, 1986).

We know that “those who learn together learn to live together”. Inclusion means providing education to the children with disabilities in a regular class together with non-disabled children. No matter how the child’s disability disabled may be, he will need some support and provisions over and above those which are regular schools has for the other children. One of the main features of Inclusion is the development of the capability of the regular education system to meet the educational needs of children with any kind of impairment. The term inclusive refers to the opportunity for persons with disability to participate fully in all the education, employment, recreational, community and domestic activities that typify every society (ILSMH, 1999).

Services are provided in Inclusion: There are three types of services required directly or indirectly for the children with disability in an Inclusion programs in India.

They are as follows,

1. **Essential services:** The general classroom teachers provide these services to disabled children e.g. consulting with special teachers, interacting with parents of disabled children, evaluation etc. When general classroom teachers provide these services, the child would be to get education in the general school even if there is no special teacher to attend to him/her.
2. **Support services:** These services provide by the qualified and trained special teacher. These teachers provide necessary material support and occasional academic support to children with disabilities and also provide the needed consultancy to regular classroom teachers e.g. identifying children with disabilities in the community, assisting general classroom teachers if needed, arranging aids and appliances, monitoring the progress of the child through classroom teachers.
3. **Peripheral services:** Agencies such as hospitals, rehabilitation centers, and non-government organizations etc. can provide these services such as identification, assessment, counseling, issuing medical reports, providing social benefits, counseling to parents etc.

According to the National Inclusion Directorate and DSSA, Inclusion has a range of benefits and all role- players are on the receiving end.

Children experiencing barriers to learning:

- They can learn new skills through imitation.
- They are with peers from whom they can learn new social and real life skills that will equip them to live in their communities.
- They have an opportunity to develop friendships with typically developing children.
- They get access to education in their communities instead of being sent away to special schools or staying at home.

All other children:

- They are able to learn more realistic and accurate views about children experiencing barriers to learning.
- They can develop positive attitudes towards those different from them.
- They can learn from others who successfully achieve despite challenges in their way.
- Both slow and gifted learners can benefit from the inclusion of learners needing support to learn.

Families of children who experience barriers to learning:

- They will feel less isolated from the rest of the community.
- They will develop relationships with other families who can provide them with support.
- They can enjoy having their children at home during their school years without the need to send them away to special schools or hostels.

Families of the other children:

- Will develop relationships with families with children with disabilities and be able to make a contribution.
- Will be able to teach their children about individual differences and the need to accept those who are different.

Communities:

- They can economize by providing one program for all children rather than separate programs.
- People experiencing barriers to learning who have developed their full potential through effective education no longer are a burden to society but can make a contribution.
- Communities will learn to appreciate diversity in their midst

Inclusive Teacher: An inclusive teacher is one who is able to teach all students in the Classroom. These Includes students who have learning disabilities, emotional Disabilities and Physical Disabilities. Being able to teach these Students means being able to make certain accommodations and adaptations so that learning is made easier (Cornoldi, Cesare, Terreni, Aiessandra et al., 1998; Colin, 2004). All students, even those without adisability need to be in an environment where they are able to learn best. In order for an inclusive teacher to do what is best for the Child, there is some collaboration that is required. There are a number of different personnel within the school to collaborate and each situation is different. Perhaps the first Person within the school for an inclusive teacher is to collaborate with regular education teachers' and the successful collaboration needs to be a positive experience. The first step to a successful collaboration is Cooperation and Understanding between the support personnel and the Classroom teacher. Both Sides must work to achieve the goal. This includes having planning time together, listening to each other's and making adjustments based on the Concerns.

The Government of India has launched Samagra Shiksha Abhiyan (S.S.A) for universalization of elementary Education (UEE). The program aims at providing useful a relevant elementary education in the age group of 6-14 years by 2010. The 86th constitutional Amendment, which has made free and compulsory education a right of all children from 6-14 years of age has given further trust to the goal of UEE. The objective of UEE cannot be achieved without including children with special needs under ambit of elementary education. The One of the focus areas of SSA is to increase access, enrolment, retention of all children and to reduce school drop outs. The project aims that education for all including children with different disabilities such as V.I., H.I., M.R, and associated problems. It is working effectively in primary education. The project facilitates school building constructing, developing educational resources, facilities for aids and appliances, conducting teachers training program for regular teachers, recruitment of resource teachers at the block level to meet and fulfill the special needs of children with disabilities in addition, orientation program for regular teachers are conducted on management of children with special needs in their classrooms.

Components of Education for Children with Special Needs in an inclusive setting

The interventions suggested under Inclusion are as follows:

- Awareness
- Necessary infrastructure for planning and management.

- Early detection and identification.
- Functional and formal assessment.
- Educational placement
- Preparation of Individualized Educational Plan
- Aids and appliances
- Teacher training
- Resource support
- Strengthening of special schools
- Removal of architectural barriers
- Monitoring and evaluation.

Inclusion requires close collaboration between the regular class teachers and range of other people including inclusive teachers trained by S.S.A., Special educators, Resource teachers, teaching assistants, therapists and parents (Hofman, 1997; Fox & Ysseidyke, 1997). There is need to investigate what inclusive teachers feel or think about Inclusion of the children with intellectual disability? What changes they want in present education system? Whether the Samagra Shiksha Abhiyan has deliberating the right form of education to the children with special needs? What are the attitudes they have towards Inclusion of the children with intellectual disability? In which area did they receive training through Samagra Shiksha Abhiyan? Is the duration of training being sufficient to them for dealing the children with Divyangjan in regular schools? Literature search on inclusive teachers in Indian context showed no evidence of research undertaken. The children with special needs are facing a lot due to the lack of special trained teachers in regular schools. For this the Samagra Shiksha Abhiyan has planned to train regular teachers in special education with the help of special professionals for inclusion the children with Divyangjan in regular schools but still there is a huge gap in their mind that How the children with Divyangjan can be taught along with non-disabled children in the classroom? So there is a need of this research study to know the present attitude among inclusive teachers trained by Samagra Shiksha Abhiyan towards Inclusion of the children with Divyangjanin regular school. This can give us insight to understand the attitude of inclusive teacher trained by Samagra Shiksha Abhiyan towards Inclusion of the children with intellectual disability, to enable us to take necessary steps to prepare the inclusive teachers to accept the concept in true sense of the term. Hence this research intends to engage a descriptive research design by understanding a survey study to investigate the attitude of inclusive

teachers trained by the Samagra Shiksha Abhiyan towards Inclusion of the children with Divyangjan in regular school.

Attitude: Attitude refers to the Inclusive teachers' beliefs, feelings or thoughts and way of reaction towards the children with intellectual disability.

Special / Inclusive teachers: Inclusive teachers refers to that the training who received through Samagra Shiksha Abhiyan towards Inclusion.

Samagra Shiksha Abhiyan (S.S.A): Samagra Shiksha Abhiyan is an endeavor for Universalization of elementary education in India.

Inclusion: Inclusion denotes a student with disability unconditionally belonging to and having full membership of a regular classroom in a regular school and in his / her community. No child due to his / her disability is rejected by the regular school. It emphasis on zero rejection (Verma & Verma, 1974; York & Tundidor, 1995; Anthea & Tricia, 2005).

Children with intellectual disability: Children with Divyangjan refer to children who have significantly sub-average, deficit in adaptive behavior and identified as Divyangjan by the inclusive teachers.

LITERATURE REVIEW

A study conducted by Paul et al. (2006) on sustainability of inclusive school reform covered individual interviews with 95 teachers and 16 administrators, working in middle schools in a large urban and sub-urban district in southeast Florida. One middle school was notably successful, having built its inclusion model on a foundation of previous reform and a school cultural characterized by shared decision making, collaboration and training. For four years, they studied Socrates and sustainability of its program. Inclusion was not sustained; the researchers' analysis of teacher and administration interviews reveals three primary factors that help explain why; leadership change, teacher turn over, and state and district assessment policy change, reduced support for the program, a by-product of the Primary factors, also contributed to the lack of sustainability (Rane, 1983; Scruggs & Mastropieri, 1996). Guido (1990), studied educators' attitude towards the inclusion of severely/profoundly-disabled students in regular classrooms. The purpose of study was to investigate the relationship between professional educator's attitude and integration of severely /profoundly disabled students in regular classroom. The present research showed that increased specific special education knowledge and experience is a key factor in more

favorite attitude towards case of placement of severely profound disabled students in regular educational classrooms. Formatting opportunities for regular/special educators to take advantage of specialized course appears to support integration efforts for more severely disabled students in regular classes (Guido, 1990; Praisner, 2003).

Soodak, Podell and Lehman (1998) conducted a study on elementary middle and high school general education teachers concerning their affective response to inclusion. The findings indicated that the affective responses were related to teacher attributes, student disability categories and school based conditions. Teachers who possessed low teaching efficacy, who lacked experience in teaching or who had low use of differentiated teaching practices and teacher collaboration were found to be less receptive to inclusion.

Minke et al. (1996) study on collaborative teaching in Inclusion practice setting found that general and special educators working collaboratively in inclusive settings had higher levels of personal efficacy and higher self-ratings of competence and satisfaction in teaching students with disabilities than general educators who taught in traditional classroom arrangements.

MATERIALS AND METHODS

The study is at finding out the attitude of inclusive teachers' trained by Samagra Shiksha Abhiyan towards Inclusion of the children with intellectual disability working in BRC under Nagpur District. It is descriptive study using survey method for collecting data to investigate the study. The sample for the study was selected 100 (50 were Female inclusive teachers and 50 were male inclusive teachers) who were working in Government Schools working in BRC under SSA, Nagpur. The random sampling technique was used for selection of the sample. A questionnaire was developed to collect the data from the respondents on " Samagra Shiksha Abhiyan Special Teachers attitude towards Inclusion of the Children with Divyangjan in Nagpur. The questionnaire consists of two parts. The part -A consists the demographic data of the respondents which includes the age, gender, educational qualifications, teaching experiences and number of days training programs received from the Samagra Shiksha Abhiyan, Nagpur. The Part-B consists of the questionnaire on attitude of inclusive teachers' trained by Samagra Shiksha Abhiyan towards Inclusion of the children with Divyangjan under various dimensions:

- a) Attitude of Samagra Shiksha Abhiyan trained teachers towards the concept of Inclusion,

- b) Attitude towards strategies to improve Inclusion
- c) Attitude towards collaboration between inclusive teachers and Regular Teachers.
- d) Attitude towards resources and management in special education to improve Inclusion

The respondents were asked to respond by giving options of " Strongly Agree", "Agree" or "Disagree".

After pilot study it was decided to do main study on "Samagra Shiksha Abhiyan Special Teachers attitude towards Inclusion of the Children with Divyangjan in Nagpur District. Initially permission has been taken from project officer, Samagra Shiksha Abhiyan Nagpur, for collecting the data on the present study from Inclusive Teachers of the concern Government schools working under the Samagra Shiksha Abhiyan, Format for collecting demographic data of the respondent and questionnaire has been distributed among 100 inclusive teachers belongs to Government schools working in Block Resource Centre, Nagpur. The questionnaire was given by hand with necessary instructions and the purpose of the study has been explained to them. They filled the questionnaire in the presence of researcher and also asked them to go through each item carefully and to respond to each item in the form of Strongly Agree, Agree or Disagree. Sufficient time was given to the respondents to fill the questionnaire. The filled forms were collected from the respective subjects to analyze the data using appropriate statistical measures.

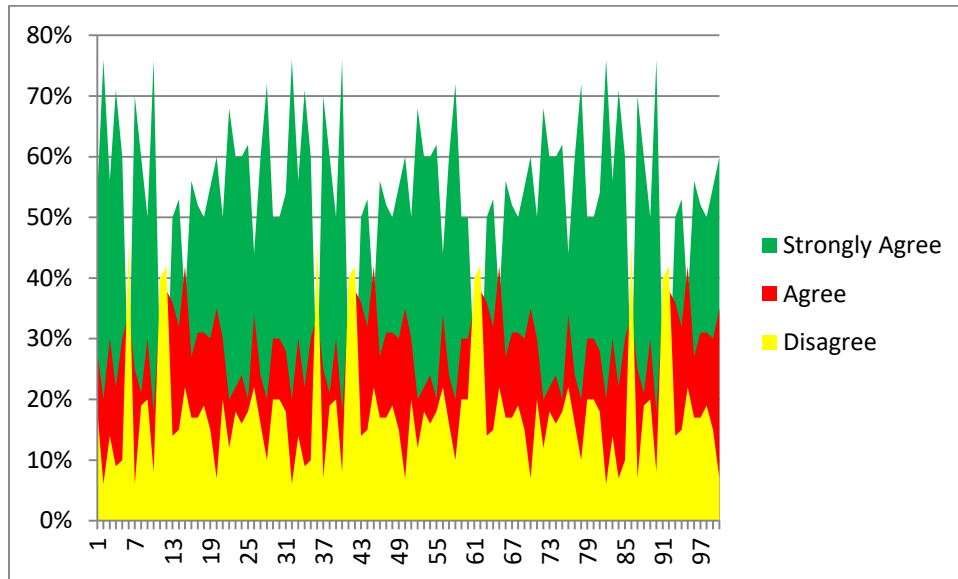
Statistical Measures: Appropriate statistical techniques were employed to analyze the data, the collected data was edited, coded and then enter against the identification numbers of each subject. The statistical analysis of the study consists of tabular representation of percentage, mean, standard deviation, independent t-tests.

RESULTS AND DISCUSSION

The analysis and interpretation of collected data were done on the basis of objectives of the study. The Figure 1 indicated that the item number 12 (20%), 22 (25%) and 24 (20 %) respectively have got less response and all other items got above 40% to 80% are positive attitude towards Inclusion of children with mental retardation. The results indicated that most of the inclusive teachers have positive towards Inclusion of the teachers with mental retardation. There is not much differences found with regard to the items. The mean and standard deviations of attitude of inclusive teachers towards Inclusion of the children with mental retardation was almost same. However, the results also reveal that the sample characteristics with respect to distribution

of age between the two age group (20-40 years, 40-58 years) and the difference in mean scores is 78.5 % and 21.5% respectively.

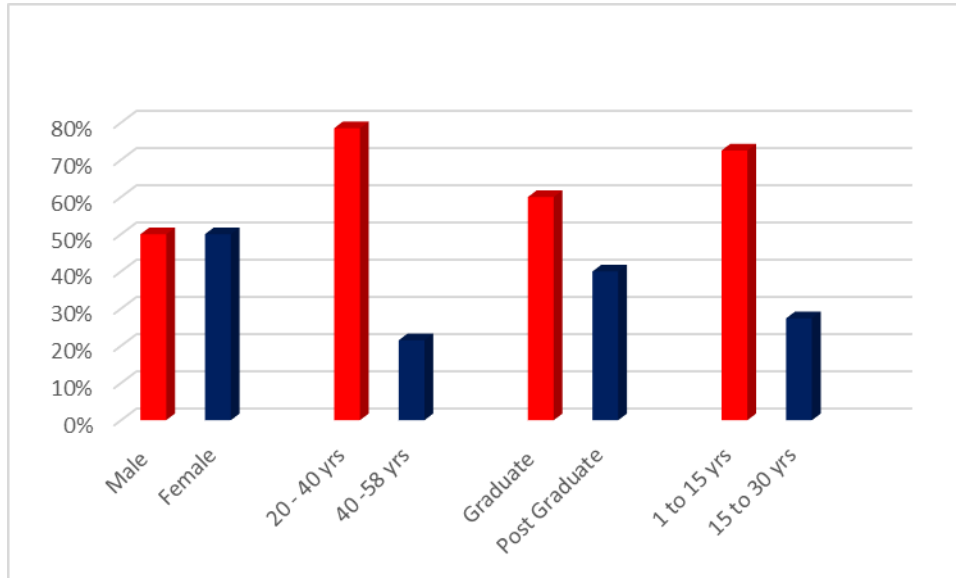
Figure 1. Items wise percentage on attitude of inclusive teachers towards Inclusion of the children with mental retardation



It indicates that there are more number of participants between the age groups 20 to 40 years and their attitude is positive towards inclusion similarly the distribution with respect to gender male 50% whereas female 50% and their attitude is positive towards inclusive of children with mental retardation.

The sample characteristics with respect to distribution with respect to educational qualifications between graduate and post graduate is 60% and 40% respectively. However, the distribution with regard to teaching experiences between 1 to 15 years and 15 to 30 years with valid percentage 72.5% and 27.5% respectively, therefore the frequency distribution of number of years of teaching experiences between the age group 15 to 30 years are less participants and their attitudes are also positive towards inclusion. The findings of study on attitude of inclusive teachers trained by Samagra Shiksha Abhiyan towards Inclusion of children with mental retardation with respect to variables such as age, gender, educational qualification and teaching experience are almost found positive attitude towards inclusion.

Figure 2. Comparison Age Group, Gender, Education Qualification and Teaching Experiences within the group



However, Figure 2 is showing the comparison of attitude of inclusive teachers towards inclusive of children with mental retardation with respect to the variables such as age group, gender, education qualification and teaching experiences within the group was found that there is no significant differences in the attitude of the subjects towards Inclusion of the children with mental retardation. Therefore, the hypothesis formulated by the researcher that there will be a significant difference in the attitude of inclusive teachers towards Inclusion of the children with mental retardation with respect to age, gender, educational qualification and teaching experience has been rejected at 0.05 level. Hence the T-Test is statistically not significant and the hypothesis is rejected.

IMPLICATION OF THE STUDY

Education of the children with mental retardation in regular class room among remote / slum areas in Nagpur has got positive response. Every student should be an integral part of the regular class room in general school as the legislation and support of policies of the Samagra Shiksha Abhiyan in an endeavor for universalization of elementary education. For educating children with mental retardation, Samagra Shiksha Abhiyan has been provided good provisions and services in the Inclusion, a beautiful source for all categories of the disability, Socio - economic

group in the community. The parents who are unable to pay school fees to attend the school and need not to stop education (Minke, Bear, Deemer & Griffin, 1996). Nobody should segregate due to his or her disabilities. Inclusion is the new and recent trend in the field of education system. For successful educational system the Samagra Shiksha Abhiyan has been providing training to regular school teachers in Inclusion of the Children with different disabilities such as mental retardation, hearing impairment, Cerebral Palsy, Learning disability, Visual impairment, slow learners and among others. The present study reflects that the inclusive school teachers are the good motivators and implementers for preparing children with mental retardation independent in their life. The study also reflects that there is a close collaboration between the inclusive teachers and regular class room teachers towards Inclusion with mental retardation. If there are any children with academic challenges example children with mild mental retardation, the inclusive teachers need to work with regular teachers on how to keep the students learning problems and what are the teaching strategies that helps to eradicate the academic challenges (McBrayer & Fory, 1998; Scruggs & Mastropieri, 1996). This study indicates that collaboration needs to be positive experiences, which includes having planning time together, collaborative teaching and learning, listening to each other concerns and making adjustments based on those concerns.

CONCLUSIONS

The present study was in fulfillment of the Master of special education in intellectual disability. The substantial co-operation and collaboration extended by the inclusive teachers in Government schools working in BRC, under Samagra Shiksha Abhiyan, Nagpur District. An attempt was made in the present study on attitude of inclusive teachers trained by Samagra Shiksha Abhiyan towards Inclusion of the children with mental retardation. Findings indicated that majority of the inclusive teachers are having positive attitude towards the Inclusion. Irrespective of the age group, gender, educational qualifications and number of years of teaching experiences and had a positive attitude towards Inclusion.

Therefore, it was concluding that the findings of the present study show that attitude of inclusive teachers towards Inclusion of the children with mental retardation were positive and the training program was given by Samagra Shiksha Abhiyan to the teachers are highly efficient and effective. The participant has suggested that there should be a training program for management in special education for the children with mental retardation and associated behavioral problems.

This may help them to improve further total inclusion of the children with along with children without any disability is possible in an inclusive class room setting.

LIMITATIONS OF THE STUDY

In this study the researcher has been prepared questionnaire which contains three components such as attitude of Samagra Shiksha Abhiyan trained teachers towards concept of Inclusion, attitude towards strategies to improve Inclusion and attitude towards collaboration between inclusive teachers and regular teachers, if I could also prepared questionnaire on accessibility / barrier free environment in special education that may help me to analyze the attitude of the participants towards Inclusion.

RECOMMENDATIONS

The following are the recommendations for further research which enable a thorough understanding of the problem and better preparation for establishment of Inclusion system in India.

- Research study should include children with different disabilities such as Hearing impaired, Visual impaired, Orthopedic Handicapped, Multiple disability, children with behavioral problem, learning disability and others.
- Research study should include the attitude of non-inclusive teachers.
- Study on the requirement infrastructure and resources facilities for Inclusion.

REFERENCE LIST

1. Anthea, K. R. & Tricia, M. N. (2005) A study on the importance of the awareness and communication for the inclusion of disabled students with life-limiting and life- threatening conditions in mainstream schools. *British Journal of Special Education*, 33(1), 15-17.
2. Bowman, P. T. (1986) Instructional strategies in main stream classrooms; prediction of the strategies teachers selects. *Remedial and Special Education*, 10(2), 23-30.
3. Colin, T. (2004) The search for a model of effective inclusive practice through the Inclusive School. *British Journal of Special Education*, 32(1), 42-45.
4. Cornoldi, Cesare, Terreni, Aiessandra, Scruggs, Thomas E. (1998) Teachers attitudes in Italy after twenty years of inclusion. *Remedial and special Education*, vol.19, No.6, pp.350-56.

5. Guido, D. L. (1990). Educators' attitude towards the inclusion of severely profoundly Disabled students in Regular classrooms. Dissertation Abstract International, volume (51), No, 10.
6. Hoffman, M. A. Hale (1997) An Analysis of Inclusion in New Jersey school Districts (General Education Teachers). Dissertation Abstract International, A 58 / 05, pp.1658.
7. International League of Societies for Mentally Health (1999), <http://worldcat.org/identities/lccn-n50062183/>
8. Fox, N. E and Ysseydyke, J. E. (1997) Implementing inclusion at the middle school level; Lessons from a negative example, Exceptional children, 64, 81-98.
9. McBrayer, P. & Fory, K. (1998) Integrating students with disabilities in Hong Kong: classroom Teachers attitudes and beliefs, Journal of International special needs education, volume p.7 - 11.
10. Minke, K. M., Bear, G. G., Deemer, S. A and Griffin, S. M. (1996) Teachers experiences with inclusive classrooms: Implications for special education reform. The Journal of Special Education, 30, 152-186.
11. Paul, T. S., Deirdre, K. S., Diane, Y. H. and Todd, W. L. (2006) The sustainability of Inclusive School Reform. Exceptional Children, 72, 317-320.
12. Praisner, C. L. (2003) Attitudes of Elementary school principals towards the Inclusion of students with Disabilities. Exceptional children, volume 69, No. 2.
13. Rane, N. (1983) A theoretical frame work for understanding loss and the helping process. In R. Weston, T.Martin and Y.Anderson (Eds.). Loss and bereavement: Managing change, London.
14. Scruggs, T. E., Mastropieri, M. A. (1996) Quantitative synthesis of Survey research literature: Methodology and Validation. In T.E. Scruggs and M.A. Mastropieri (Eds.) Advances in learning and behavioural disabilities; Theoretical percepectives, IOA. Greenwich, CT; JAI, PP.209- 283.
15. Soodak, L. C., Podell, D. M. & Lehman, L. R. (1998) Teacher, student and school attributes as predictors of teachers' responses to inclusion. The Journal of Special Education, 31, 480-497.
16. Verma & Verma, (1974) Inservice A mandated special education course and its effects on regular classroom teachers. Teacher Education and special Education. Educational, 8 (2), 59-65.

17. York, J. & Tundidor, M. (1995) Issues raised in the name of inclusion: Perspectives of educators, parents and students. *Journal of the Association for persons with severe Handicapped*, 20, 31-44.

**AUTISTIC CHILDREN VERBAL AND NON-VERBAL COMMUNICATION
DEVELOPMENT**

AUTHOR'S DATA:

Nelly Hunanyan, Researcher

Chair of Speech and Rehabilitative Therapy, Khachatur Abovyan Armenian State Pedagogical University
Lecturer

Contacts: nellyhunanyan@rambler.ru

ABSTRACT

The article presents the results of the study, which relates to the efficacy of speech therapy means and methods for the development of speech and non-verbal communication processes for children with autism.

A number of researchers' observations show that the range of contact between children with autism is very limited. Mostly these children feel calm and they are relatively manageable only among their extremely close people. The difficulty of selective and original communication contributes to the more isolation of children with autism. The communication difficulties described in the context of not performing early diagnostics work start to be strengthened and deeply rooted in the mental processes of these children. The inability to communicate and the active rejection of any communication contributes to relapsing behaviors whenever there is an attempt to draw any attention and the requirement for a directive ends with a fight.

Based on the multi-year pedagogical activity in this field, the author presents experimental studies with autistic children. Taking into account the individual features of each child during the two-year training, we have created different play situations to try to make an interest and expand the range of contacts. Initially, we tried to create about 5-10 similar situations during one speech therapy session, and later, when appropriate skill is well-formed, we try to strengthen it in other situations or in the presence of other strangers.

Keywords: Early autism (EA), verbal communication, non-verbal communication, socialization, alternative communication tools, speech therapy sessions.

INTRODUCTION

Over the past few years, the concept of "autism" has been widely distributed among the public. Such curiosity shown by the people as well as the importance of the topic of this article is not accidental as the number of children with such diagnosis increases year by year in the world (Petrova, 2010; Greenspan & Wieder, 2013; Svajyan & Manukyan, 2015). The children are born with undiscovered and unique behaviors that lack the ability to communicate with surrounding people (Hunanyan, 2013).

It is known that the speech process of children with early autism (EA) has unique and pathological development (Kovalyov, 1985; Nurieva, 2003; Mastjukova & Moskovkina, 2004; Sukiasyan & Margaryan, 2006; Happe, 2006; Kafyan, 2010). The difficulties associated with the verbal process, as well as the lack of desire to communicate, occur at an early age and persist throughout the life of these children (Mesh & Wolf, 2003). It is a fact that there are children with EA who can speak and have certain language skills, but the reproduction of words out of context does not lead to real development and children stop using these words because they do not understand the purpose of their application. Therefore, the main reason of the communication difficulties of children with EA is an insufficient reciprocity and, in fact, the inability to understand the meaning of information transfer from one person to another as a communication tool (Gilbert & Piters, 2005).

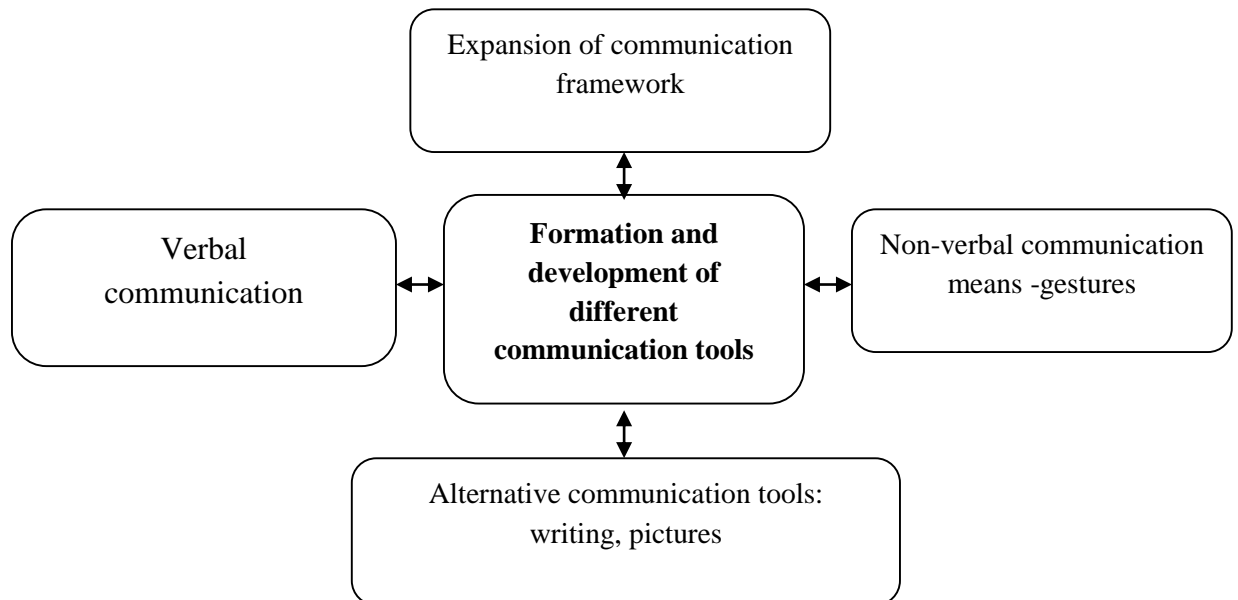
The aim of this research is to promote the socialization process of children with EA by identifying potential ways of forming and developing verbal and non-verbal communication in these children.

METHODS

For this study we conducted experimental training with participation of 28 children with EA aged 4-7, 14 of them were included in experimental and 14 in the control groups. Individual work was carried out with children with EA in the control group, based on the basic speech therapy methodologies for playing and learning. In the experimental group, the work for development of the communication process for children with EA was carried out through the use of a speech therapy system developed by us in playing and learning processes. In this system, in order to develop verbal and non-verbal communication capabilities for these children, during individual, and later during group training, we have purposefully implemented the following (Figure 1):

1. Expanding the frame of contact between children with EA;
 2. Formation and development of the ability to use verbal communication tools;
 3. Formation and development of the ability to use non-verbal or body-based (somatic) lingual means, in particular gestures;
- Formation and development of communication skills with the help of alternative communication tools, like pictures and writing.

Figure 1. Ways to develop verbal and non-verbal communication tools for children with early autism.



Taking into consideration the possible ways of communication of children with EA (speech, gesture, picture, etc.), the speech therapy intervention carried out by us for the formation and development of communication capabilities has pursued the following goals:

- Formation and development the ability to apply "Yes" response or appropriate gesture in children with EA through the specialist's question "Do you want?";
- Formation and development the ability to apply "No" response or appropriate gesture in children with EA through the specialist's question "Do you want?";

- Formation and development of the ability to apply the "Demonstration" gesture by children with EA;
- Formation and development of the ability to comment on actions performed by children with EA (through speech or related images).

In order to accomplish the aforementioned work, we have chosen preferably incentives (food, items, etc.) for each child to encourage them and include in speech therapy intervention for the formation and development of communication capabilities. During the implementation of the works by this regard we also relied upon the communicative skills-enhancing behavioral method (Gilbert & Piters, 2005).

The reliability of the positive results we have recorded has been tested in the both, context of the reality (when a child with EA playing by train, for example, is commanded: "Give the train" or "Take the train", etc.), as well as beyond the context of reality (in this case a child with EA is given an instruction that does not associated with the child's action at that moment, for example, "Give the cube", "Come Here", etc.) (Nikolskaya, Baenskaya & Libling, 1997; Lovaas, 2003).

During the two-year experimental training, taking into account the individual characteristics of each child, we have created different playing and learning situations for the purpose of creating interest and expanding the range of their contacts.

RESULTS AND DISCUSSION

For the formation and development the ability to apply "Yes" response or appropriate gesture in children with EA through the question "Do you want?" we have shown the incentive interesting for the child with EA and have asked him "Do you want?". Then, immediately, as the hint, we have given the word "Yes" or with the motion of the head have shown the appropriate positive gesture. As a result of two-year experimental training, we have made the following progress: before experimental training in both control and experimental groups only 21.42% (3 children) of children with EA were able to answer "Yes" verbally to the question "Do you want?", and two years later, this indicator increased to 28.57% (4 children) in the control group and to 42.85% (6 children) in the experimental group (Table 1). It should also be noted that before experimental training none of the groups of children with EA gave the answer "Yes" as the appropriate positive gesture with the head to the question "Do you want?" (Table 2). After the experimental training, 28.57% (4 children) of speechless children with EA in the experimental

group used the gesture "Yes", but no positive progress was recorded in the control group (Table 2).

Table 1. Comparative indicators of the development of verbal communication means of the tested children

Investigated indicators	Experimental group (n=14)					Control group (n=14)			
	Evaluation units (points)					Evaluation units (points)			
	Before experiment		After experiment			Before experiment		After experiment	
	n	Existence of verbal response	Absence of Verbal Response	Existence of verbal response	Absence of Verbal Response	Existence of verbal response	Absence of Verbal Response	Existence of verbal response	Absence of Verbal Response
%									
Availability of the answer "Yes" to the question "Do you want?"	n	3	11	6	8	3	11	4	10
	%	21,42	78,57	42,85	57,14	21,42	78,57	28,57	71,42
Availability of the answer "No" to the question "Do you want?"	n	1	13	5	9	2	12	2	12
	%	7,14	92,85	35,71	64,28	14,28	85,71	14,28	85,71
Ability to comment on the action performed	n	1	13	5	9	1	13	2	12
	%	7,14	92,85	35,71	64,28	7,14	92,85	14,28	85,71

The principle of the work for the formation and development the ability to use "No" response (or appropriate gesture) by children with EA through the question "Do you want?" was the same as the previous one. In order to organize the work properly, we have chosen a meal or an item that the child really did not want based on, of course, their individual characteristics. It should be noted that the described works have been carried out several times during one logopedic training. As a result of the experimental training, we recorded the following progress: if only 14.28% (2 children) of the children with EA in the control group used this ability, two years later

this index was not changed (Table 1). It should be noted that, after experimental training, the control group did not use the appropriate gesture of "No", as well (Table 2). The picture of the positive changes recorded was different in the experimental group where, before the experimental training, only 7,14% of children (1 child) were able to use the answer "No", and after experimental training it was 35,71% (5 children) (Table 1). After the question "Do you want?", the appropriate gesture of "No" was used by 21.42% (3 children) of children with EA in the experimental group (Table 2).

Table 2. Comparative indicators of the development of non-verbal communication means of the tested children

Investigated indicators	Experimental group (n=14)					Control group (n=14)			
	Evaluation units (points)					Evaluation units (points)			
	Before experiment			After experiment		Before experiment		After experiment	
	n	Appropriate gesture application	Absence of appropriate gesture application	Appropriate gesture application	Absence of appropriate gesture application	Appropriate gesture application	Absence of appropriate gesture application	Appropriate gesture application	Absence of appropriate gesture application
%									
Application of the corresponding gesture of the answer "Yes" to the question "Do you want?"	n	-	14	4	10	-	14	-	14
	%	-	100	28,57	71,42	-	100	-	100
Application of the corresponding gesture of the answer "No" to the question "Do you want?"	n	-	14	3	11	-	14	-	14
	%	-	100	21,42	78,57	-	100	-	100
Ability to comment on performed actions through pictures	n	-	14	3	11	-	14	-	14
	%	-	100	21,42	78,57	-	100	-	100

The ability to use a "Demonstration" gesture is considered as one of the most important goals of our work, as children should express their wishes and reach the contact in both speech therapy work and everyday life. At first, as an example, we have shown how to use the "Demonstration" gesture, and then we have encouraged the child to use it independently as much as possible. Study has shown that before the experimental training only 21.42% (3 children) of the children with EA in control and experimental groups were able to apply the "Demonstration" gesture, but after the experimental training the 28.57% (4 children) and 71.42% (10 children) was recorded in the control and experimental groups, appropriately (Table 2).

For the purpose of forming and developing the capacity of children with EA to comment on their own actions, we have taught them to describe the action performed or to show the picture depicting the action. Initially, we have spoken the verbal material or have shown the picture of the right action instead of the child, and then gradually reduced our direct participation. Children were encouraged when with the little guidance at the initial stage, and later fully independently, performed the work described (Nurieva, 2003). The ability of examined children with EA to make comments on their own actions explored through the question "What do you do?". As one can see from the Table 1, before experimental training only 7,14% (1 child) of children with EA included in control group was able to describe the limited number of their actions, but two years later, this index was increased up to 14.28% (2 children). In the experimental group, before experimental training 7.14% (1 child) of children were able to describe verbally the actions they performed and 35.71% (5 children) after the experimental training (Table 1). It should be noted that only 21.42% (3 children) of the non-verbal children in the experimental group were able to show the picture of the corresponding action on the question "What do you do?" (Table 2). Children with EA in the control group did not even show the picture depicting the appropriate action after the question "What do you do?" (Table 2).

CONCLUSION

The results of our experimental training allow us to identify the ways of formation and development of verbal and non-verbal communication skills of the children with EA, and substantiate experimentally the effectiveness of suggested speech therapy intervention program.

Further research is needed to understand the wider possibilities of promoting the socialization process of children with EA by identifying potential communication ways of these children.

REFERENCE LIST

1. Gilbert, K., Piters, T. (2005) *Autizm, medicinskoe i pedagogicheskoe vozdeystvie* (Autism, Medical and Pedagogical intervention), Moskva, Vlados, s. 144.
2. Greenspan, S. & Wieder, S., (2013) *Engaging Autism: Using the Floortime Approach to Help Children Relate, Communicate, and Think* (A Merloyd Lawrence Book): Moscow Publ. Terevinf.
3. Happe, F. (2006) *Autism: An Introduction to Psychological Theory*: Routledge
4. Hunanyan, N. V. (2013) *Vagh mankakan autizmi meknabanutyam jamanakacic motecumneri verlucutyuny* (An analysis of contemporary approaches to interpreting early childhood autism), *Hayastani gitutyunneri azgayin akademiya, Erebuni bzhshkakan kentron* N 4 (56), Yerevan, ej 10-16
5. Kafyan, E. M. (2010) *Autizmov erekhaneri zargacumy nerarakan usucman ev dastiarakutyam hamakargum* (Development of children with autism in the system of inclusive education and upbringing), *Profesoradasakhosakan andznakazmi, aspirantneri, haycordneri ev gitashkhatoghneri 54-rd gitajoghovi nyuteri joghovacu 1 PRAK*: Yerevan, Mankavarzh, ej 125-127
6. Kovalyov, V. V. (1985) *Semiotika i diagnostika psikhicheskikh zabolevaniy u detey i podrostkov* (Semiotics and diagnostics of psychiatric patients in childhood and adolescence), Moskva, Medicina, s. 288
7. Lovaas, I. O. (2003) *Teaching Individuals with Developmental Delays. Basic Intervention Techniques*: An International Publisher PRO-ED.
8. Mastjukova, E. M., Moskovkina, A. G. (2004) *Semeynoe vospitanie detey s otkloneniyami v razvitii* (Family education for children with developmental disabilities), Moskva, Vlados, s. 408 c.
9. Mesh, E., Wolf, D. (2003) *Detskaya patopsikhologiya. Narusheniye psikhiki rebenka* (Pediatric pathology. Disordered Psychic Rebound) *Trtya mejdunarodnoe izdanie, Sankt-Peterburg Praym – EVROZNAK*, Moskva, Olma-Press, s. 512

10. Nikolskaya, O. S., Baenskaya, E. R., Libling, M. M. (1997) Autichniy rebenok. Puti pomoschi (Autistic child. Ways of help.), Moskva, Terevinf, s. 341
11. Nurieva, L. G. (2003) Razvitie rechi u autichnikh detey, Moskvam Terevinf 2006, s. 160
12. Petrova, N. (2010) Puteshestviya s Aliaoy, ili razbitoe zazerkalye (Traveling with Alice, or the Broken Looking Glass), Moskva-Sankt-Peterburg Dilya, s.144
13. Sukiasyan, S. H., Margaryan, S. P. (2006) Hogebugutyun. Mas 1 (Psychiatry. Part 1) Yerevan Asoghik, ej 193
14. Svajyan, A. H., Manukyan, A. T. (2015) Autizm unecogh erekhanerin hanrakrtutyun mej nerarman himnaharcer (Issues for inclusion of children with autism in general education), Hatuk krtutyun himnakhndiner gitametodakan hands N 3, Yerevan, ej 119-124

**SPACIAL ORIENTATION OF CHILDREN WITH VISUAL IMPAIRMENTS
IN FAMILIES**

AUTHORS' DATA:

Sona Davtyan, PhD in Education, Associated professor

Chair of Special pedagogy and psychology, ASPU

Lecturer

Contacts: d-sona@mail.ru

ABSTRACT

The current study presents the main directions, theoretical and practical ways of development of spatial orientation of the preschool children with visual impairments, and its necessity within the family life condition. The aim of the research is to elaborate means, methods and conditions of their application for spatial orientation development of the preschool children with visual impairments for their parents and families. As a result, parents of preschool children with visual impairments were provided with appropriate knowledge and skills.

Key words: preschool children with visual impairment, development, orientation, mobility, skills, education, family.

INTRODUCTION

Children with visual impairment rarely express independence, self-advocacy and self-direction skills in their behavior. Visual impairment, inadequate attitude of parents, teachers, and peers toward a blind or low vision child have a negative influence on the sense of security and self-assessment of the ability to make everyday decisions independently (Bardin & Lewis, 2008). Many authors state that children with visual impairment have difficulties in independent and reasonable behavior, they find it difficult to predict an outcome before making a decision, they rarely apologize for their mistakes, and they cannot control anger. Most authors point out that the impairment and its consequences as well as inadequate attitude of parents and teachers toward children with visual impairment, have a negative influence on the sense of security and self-assessment of abilities to

make independent decisions in everyday life (Bardin & Lewis, 2008; Avramidis & Norwich, 2010; Andjelkovic, 2017).

Orientation is the ability of the visually impaired child to perceive and understand his/her position and location within a given environment. Children learn about their environment as they move through and about people and objects, sizes, shapes, and distances as they interact. For typically developing children the senses of sight and hearing provide the greatest motivation for exploration. These children use their vision and hearing to gather information about their surroundings while growing, while understanding of their own bodies and their own capabilities of movement. The sight of toys or people and the sounds of voices or objects encourage them to move and discover. As they do so, they gather, recognize, and interpret an amazing array of sensory information (Sapp & Hatlen, 2010).

Mobility is the ability to move about within a given environment. These abilities do not suddenly appear at a specific time or age, but have an underlying conceptual foundation which begins at birth. For visually impaired infants, many factors contribute to the quality of these emerging conceptual foundations: the quantity/quality of available vision; whether that vision will remain the same, improve, or deteriorate; whether there are other disabilities (hearing, motor, tactual defensiveness, impaired senses of smell or taste); alertness/receptivity. Initial mobility factors are largely motor-based, and depend to a great extent on the development of the motor system. Milestone skills such as head control, sitting unsupported, independent hand/arm use (as in grasping and reaching), creeping/crawling, standing alone, and walking independently are all pre-mobility skills.

It is known that preschool age plays an important role in general development of both typically developing children and children with visual impairments (Avramidis & Norwich, 2010). Profound and partial visual impairments complicate spatial orientation of these children. Therefore, the development of the ability of spatial orientation of preschool children with visual impairments in family has an exceptionally important value. At the same time, the insufficient scrutiny and elaboration of the issue significantly impede the works of formation and development of abilities of spatial orientation of preschool children in family. The content of the work aimed at the development of abilities of the spatial orientation of preschool children with visual impairments in family settings is not studied, there is no elaborated sample program for formation and development of the ability of micro and macro spatial orientation of preschool children with visual

impairments. That's why a comprehensive study of these issues and the experimental elaboration of special means, methods, conditions of their application and a sample program for formation and development of abilities of spatial orientation of preschool children with visual impairments in family settings is very urgent, theoretically and practically significant.

The aim of the research is to elaborate means, methods and conditions of their application for development of the ability of the spatial orientation of preschool children with visual impairments in family settings.

The objectives of the research are the following:

1. To study the level of scrutiny of the issue theoretically and practically;
2. To study the ability of spatial orientation of preschool children with visual impairments;
3. To elaborate special means, methods and conditions of their application for development of abilities of the spatial orientation of preschool children with visual impairments in family settings;
4. To experimentally justify the efficiency of application of the recommended approaches.

METHOD AND PROCEDURE

The participants of the current study are parents of preschool age children visiting preschool setting functioning within the frame of Yerevan school N14 for children with visual disorders. As total 75 parents took part in this study. The universal sampling method was used while organizing the selection procedure of parents. The quantitative questionnaire was circulated to all the parents to understand the basic challenges children feel while spatial development and orientation.

Questionnaires later on were analyzed using Excel analytical tool. The data and parameters for each analysis were implemented, and the tool used the appropriate statistical functions to calculate and display the results.

RESULTS AND DISCUSSION

After analyzing the data, it became obvious that the majority of parents (95%) are sure that their child will never be able to orientate in micro and macro environments, and will always have

difficulties in developing independence, self-advocacy and self-direction skills in their behavior. So, based on this, it was decided to create a program in order to raise awareness of parents regarding the abilities of their children with visual impairments.

When a child cannot access his world efficiently through his vision, he must learn to use his other senses more effectively (Davtyan, 2016). Systematic instruction is needed to develop the other senses for use in travel and finding things in the environment. The child must understand that some of the sounds and smells and textures he experiences can be used as permanent markers (landmarks) to let him know where he is in the world. Other pieces of information may be there sometimes and not at other times (clues) such as the sound of the water fountain. Developing sensory awareness is critical for the child with visual impairments or blindness. Most children with visual impairments are capable of learning routes in familiar environments.

They learn to use landmarks and clues to help them know where they are along a particular route. They learn specific adaptations to aid them in their movement. These might include understanding that tactual markers on doorways identify the gym or the restroom, using an adaptive mobility device or a cane to identify obstacles and drop-offs, or locating a street sign using a monocular. A primary goal of orientation and mobility training is to help each child with visual impairments achieve independent movement to as great a degree as possible. Independent movement is critical for all children with visual impairments. Orientation and Mobility specialists are trained to provide instruction which will enable children with visual impairments to reach their highest level of independence.

The theoretical significance of the study is determined by the theoretical statement of efficiency of recommended approaches to formation of the ability of spatial orientation of preschool children with visual impairments in family settings and by the research results.

Many parents choose to homeschool their children because they cannot always guarantee that their child will receive an adequate education through the public school system. For parents with blind or visually impaired children, homeschooling may be even more appealing because they can provide their child with the attention and additional resources that they will need to succeed in a learning environment (Bardin & Lewis, 2008). In order to homeschool a blind or visually impaired child you should establish yourself as a home educator, provide your child with assistive technology, modify the learning experience to suit the needs of your child, and provide your child with an opportunity to socialize with other children. Spatial orientation is a person's skill in using

the information received through their senses to determine their position in space and their destination in relation to significant objects in the environment. In the context of visual impairment, this term refers more specifically to knowledge of distances and directions that relate to objects in the environment and have been observed or memorized, and the ability to commit these spatial relationships to memory when they change as the person proceeds. Spatial skills are defined by putting in place and using spatial relations between a particular place and oneself (e.g. in a given fixed position) or between different places (independently of one's own position).

Orientation integrates perceptual and cognitive learning. Integrating the sensory information needed for orientation requires conceptual development that includes among others, body scheme, the body-to-object relationship, spatial updating, the object-to-object relationship, the environment and time, as well as conceptual understanding of objects.

It is very important to state, that spatial orientation may be affected by dysfunction of any of the basic sensory systems (touch, proprioceptive, vestibular, olfactory, auditory or visual). The development of orientation skills and the construction of a mental representation of the environment are also related to various cognitive faculties such as attention capacity, short-term, long-term and topographic memory, and language skills (Davtyan, 2018; Davtyan, 2018).

At an integration level, mental representation of space involves localizing the stimulus, spatial memory, inference skills, and using symbolic representations and cognitive maps.

So practical strategies for families formulated as follows:

- Provide opportunities for your child to explore all areas of his or her environment, particularly the home. Help the child locate stationary landmarks that provide reference points. For example, a child may know that he is in his bedroom after locating his dresser with the “special” handles. Be sure to allow him to find this dresser so he will know when he is in the bedroom.
- Let your child experience a variety of surfaces such as carpet, tiled floors, vinyl flooring, grass, sidewalks.
- Allow your child to participate fully in activities. For example, if he wants to play with toys, help him go to the place where the toys are located and select the toy that interests him. Travel back to the play area together. This process allows him to understand his environment more completely, as compared to having the toys simply brought to him.

- Make full use of “reference points,” those clues that help us know where we are. We have all experienced being lost in an unfamiliar city, only to become “reoriented” once we locate a familiar landmark. Similarly, children who are deaf-blind need to learn to use reference points to help them stay oriented in their environment. Reference points can be auditory, tactile or visual.
- Encourage your child to travel as independently as possible. If he can walk independently, allow him to do so. If he is learning to walk with a guide, don’t hold his hand and pull him along with you. If he is capable of reaching out to locate a desired toy, don’t allow it to “magically appear” by bringing it to him.
- Make use of physical boundaries so the child can better understand his surroundings. It is much easier to comprehend a play area bounded by wall dividers or bookshelves than an arbitrary space in the middle of a large room.
- Provide opportunities for the child to solve problems on his or her own. Refrain from rescuing him or her prematurely.
- Help a child associate familiar toys and objects with the environments in which they may be used. For example, show him the washcloth before walking to the bathroom for a bath, or the ball before traveling to the school gymnasium (Davtyan, 2016; Davtyan, 2018).

CONCLUSION

These the organizing and passing the numbers made theoretical approaches formation of the spatial side detection capabilities and the development of preschool child with visual impairment, and the point of view and practical ways are aimed at improving that work in a family and raising awareness about the child’s abilities. The formation and development of spatial side detection capabilities in a family, with active participation of parents, trust and belief towards the child is the only prerequisite for positive results.

REFERENCE LIST

1. Andjelkovic, M. (2017) Conceptual skills in persons with visual impairment, *Specijalna edukacija i rehabilitacija* (Beograd), Vol. 16, br. 1. 9-33.

2. Avramidis, E., & Norwich, B. (2010) Teachers' attitudes towards integration/inclusion: A review of literature'. *European Journal of Special Needs Education*, 17(2), 129–147.
3. Bardin, J. A., Lewis, S. (2008) A survey of the academic engagement of students with visual impairment general education classes. *Journal of Visual Impairment & Blindness*, 102(8), 472-483.
4. Davtyan, S. R. (2018) Prostranstvennaya orientirovka u doshkolnikov s narusheniyami zreniya v usloviyakh semyi (Spatial orientation in preschool children with visual impairment in a family). *Problemi I perspektivi razvitiya obrazovaniya, II Vserossiyskaya nauchno-prakticheskaya konferenciya (s mejdunarodnim uchastiem, g.o. Orekhovo-Zuevo, s. 21-23.*
5. Davtyan, S. R. (2016) Tesoghutyun khangarum unecogh nakhadprocakanneri taracakan koghmnoroshman karoghutyunneri dzevavorumn yntaniquim (Developing spatial orientation capabilities of preschoolers with visual impairments in the family). *Hayastani Hanrapetutyun social-tntesakan kayun zargacman himnakhndirneri gitakan hodvacneri zhoghovatsu, Yerevan 1/23/. - ej 374-378*
6. Davtyan, S. R. (2018) Tesoghutyun khangarum unecogh nakhadprocakanneri taracakan koghmnoroshman karoghutyunneri dzevavorman ev zargacman mijocnern yntaniquim (Assessment and Development of Spatial Orientation Skills of Preschoolers with Visual Impairment in the Family), *Usumnametodakan dzernark, "Nahapet" hratarakchutyun, Yerevan, 47 ej*
7. Sapp, W., Hatlen, P. (2010) The expanded core curriculum: Where we have been, where we are going, and how we can get there. *Journal of Visual Impairment & Blindness*, 104, 338-348

**THE IMPORTANCE OF THE PRELIMINARY ASSESSMENT OF STUDENTS'
KNOWLEDGE IN THE PROCESS OF TEACHING THE DISCIPLINE
“THE BASIS OF GENETICS”**

AUTHOR’S DATA:

Spartak Palikyan, PhD in Biology, professor
Chair of Speech and Rehabilitative Therapy, ASPU.
Lecturer
Contacts: spartakpalikyan@icloud.com

ABSTRACT

The article describes and considers the possibility of applying the results of preliminary testing of student’s knowledge for increasing the effectiveness of teaching the courses within the frame of higher professional education, for which the school knowledge acts as basic. In this case the example of the course of "The Basics of Genetics" is discussed.

Key words: educational process, special education preliminary check, basis of genetics, preliminary knowledge, basic knowledge.

INTRODUCTION

The university's transition to the use of credit technology in the organization of the educational process, as well as the implementation of a new modular knowledge assessment system, create a fundamental need to objectively initialize learners' initial levels of knowledge in order to tailor their needs and abilities and from the very beginning to differentiate the approaches used while teaching process, determine the degree of complexity and intensity of the knowledge provided to each person in accordance with the basic knowledge of the course.

Knowledge testing in the higher education system is one of the most important components of the learning process, which significantly enhances the effectiveness of students' learning activities. The knowledge test or assessment enables to determine the volume, level, quality of the teaching material delivered, reveals the successes and disadvantages of the course study, on the basis of which appropriate adjustments are made, as well as the improvement of course content, teaching modes and methods is done (Amonashvili, 1984).

The proper organization of the testing or assessment significantly affects the efficiency of the educational process and the quality of the training of professionals, creates favorable conditions for the development of learners' cognitive abilities, and activates their own self work (Aleksandrova, 2008).

Knowledge testing methods are the means of obtaining feedback on the content, nature and achievements of students' learning activities, as well as for evaluation of the overall effectiveness of the teacher's work [6]. They are intended to determine the quality of teaching in all stages of the teaching process. Very often, current, intermediate and final exams are used in the teaching process for knowledge evaluation, the basis of which is to identify the characteristics of didactic problems in different stages of learning. All these forms of testing and evaluation to some extent reflect the logic and objectives of the learning process (Smirnov, 2010; Krilova, 2013).

Preliminary testing, unlike the forms mentioned above, is rarely used in Armenia, although it is considered a prerequisite for further education process planning and management. Such testing enables the students to determine the level of initial knowledge (basic knowledge) and competence available to the learners, which will be considered as a basis for determining the level of complexity of the subsequent study material. As a rule, pre-testing has confirmatory (diagnostic) and diagnostic problems. It is taught at the beginning of each specific subject and aims to identify the level of knowledge, abilities, and skills of students at the beginning of the course. At the same time, the preliminary testing is also crucial in the initial phase of starting the process of learning. The information regarding the students' basic knowledge enables the teacher to determine the possible level of pedagogical influence on them and the possible outcomes of that influence. The pre-testing also allows the teacher to select the most effective forms and methods of work, as well as to tailor the course material and curriculum to the specificities of the student.

"The Basics of Genetics" as a training course is included in the basic cycle of general professional subjects of all specialties in the field of special education within the frame of state higher education standards of higher education. The uniqueness of this course within the structure of higher professional education is that for its effective study it is necessary for the student to have some background knowledge of general biomedicine and genetics. In the school education system, this level is provided in the framework of a general biology course. However, this subject is not elected by many students as a subject studied in high school, and not all constituents perceive it equally, and, at the same time, taking into account the fact that biology is no longer considered a

competitive subject in the list of admissions exams in all recent education specialties (applicants are admitted to the university only after receiving a positive assessment of the Armenian language test), then it becomes clear that the biological knowledge of all of them is on different to the levels.

The aforementioned statement leads to the fact that, despite its complexities, genetics is becoming an increasingly difficult subject for first-year students. The prior knowledge of biology and genetics in the teaching of genetics has led to the fact that for some students the same study material may be very easy to master and for others quite difficult to study. Correspondingly, the results of the exams after the training are substantially different, as the same study knowledge is accumulated on different cognitive bases of the students. At the same time, in the context of university in-service training, the individual pedagogical approach to each student becomes very difficult and in many cases even almost impossible. That is why, in our opinion, the most logical way out in this situation is dividing students into the groups (streams) according to the prior level of knowledge gained from the field of genetics.

STATEMENT AND ANALYSES OF THE SITUATION IN THE FIELD

In the initial phase of studying the basics of genetics, the students' knowledge of general biology and genetics can be derived from a variety of sources:

1. **School course of General Biology.** Includes research in such areas as molecular genetics, classical genetics, fundamentals of genomics, and fundamentals of human genetics, evolutionary genetics, population genetics, and breeding grounds. The school curriculum creates a general conceptual environment for teaching the subject, giving general patterns and scientific achievements in the field of genetics.
2. **General social informative environment.** Gaining special knowledge in the field of genetics may be due to the widespread interest in modern society on issues such as human genetics, including sex genetics, breeding grounds, and medical genetics. Such everyday knowledge may be possessed by people who have experienced genetic abnormalities or diseases in their life experience, with a particular interest in the particular issues of this science related to paternity/maternity recognition, family tree building, and so on.
3. **Special training courses or programs.** Genetics is more widely studied in specialized pedagogical, medical, biological, and similar educational settings: colleges, vocational schools, and universities. In-depth study of genetics, genomics, and evolution in these

educational programs within the frame of "school program" may include a variety of combinations, such as population and molecular genetics, genetic engineering, medical and sports genetics, environmental and physiological genetics, developmental genetics and so on.

Accordingly, the level of knowledge gained, as well as the degree of understanding the specificity of this or that topic, differs for all students studying genetics. By analyzing students' knowledge at the beginning of the course, the lecturer can arrange his/her work in a way as to produce more quality teaching results.

Based on the results of the pre-test organized at the beginning of the learning cycle, the lecturer can make adjustments to the thematic plan, decide to which sections of the curriculum should be given the most attention, and work out the ways to eliminate complications in students' knowledge. Thus, based on the results of the pre-test, it is possible for the students to be included in the groups with similar knowledge levels in order to select and differentiate the relevant program according to the learning rate. It means that teaching within a single student stream (group) becomes more personalized, which in turn will lead to deeper learning of the course material and further objective evaluation.

AN ENTRY LEVEL KNOWLEDGE TEST DEVELOPMENT

In our opinion, the most convenient and productive way of conducting a preliminary evaluation is using tests, as many authors consider it to be a very effective mean of assessment students' development style, knowledge, abilities and skills (Avanesov, 1994). The data obtained at the initial stage is subjected to statistical analysis and based on this, a qualitative description of the student's further progress from the course is given. Preliminary testing of knowledge can be carried out during the first courses of the training (baseline check), as well as at the beginning of the training of individual subjects (knowledge actualization). Incoming assessment testing is usually performed during the first lesson. In order to determine the initial level and specificity of knowledge on basics of genetics, **an entry level knowledge test** was developed by us and applied.

This test contains 40 questions accordingly with three levels of difficulty:

Level 1 comprises 10 relatively simple questions of general knowledge disclosure that will reflect the student's general knowledge of the subject.

For example, questions such as:

1.1 Genetic information in the human body holds:

- 1) only sex cells,
- 2) all cells,
- 3) only non-sex cells,
- 4) brain cells.

1.2. Geneology is a research method of:

- 1) twins,
- 2) human genetic code,
- 3) families,
- 4) human evolution.

1.3. Human chromosome assembly consists of --- chromosomes:

- 1) 46,
- 2) 47,
- 3) 44,
- 4) 45.

1.4. The combination of XY chromosomes conventionally means:

- 1) female sex,
- 2) male sex,
- 3) genetic disease,
- 4) mutation.

It is permissible that students may "guess" as a result of the "simplicity" of the questions. The successful passing of the "light" level of the test will contribute to the creation of successful situation and thereby will stimulate the students' motivation.

Level 2 comprises 15 questions of greater complexity and is designed to reveal the knowledge gained from general biology and chemistry courses.

For example:

2.1. RNA is:

- 1) ribonucleic acid,
- 2) deoxyribonucleic acid,
- 3) protein,
- 4) DNA breakdown compound.

2.2. Homologous chromosomes are called:

- 1) sex chromosomes,
- 2) autosomes,
- 3) non-paired,
- 4) paired.

2.3. Recessively is:

- 1) the presence of only one allele in the heterozygous individual in the phenotypic manifestation,
- 2) the absence of phenotypic manifestation of the heterozygous individual,
- 3) the type of genetic pathology,
- 4) the over-expression of all species.

2.4. Point mutations associated with alterations in the nucleotide sequence of a DNA molecule within one gene are:

- 1) gene,
- 2) genomic,
- 3) chromosomal,
- 4) generative.

Level 3 contains 15 questions for discovering special knowledge in general and medical genetics. These questions are peculiarly scientific in their nature and reflect at a very simple level the topics of the further study sections of genetics as a subject.

These can be questions like:

3.1. The purpose of the twins divided from each other method is:

- 1) comparison of children in families where mothers and fathers are monozygotic twins,
- 2) evaluation of the intrinsic similarity of the traits studied in childhood separated twins,
- 3) targeted division of twins into different families for their further consideration,
- 4) evaluation of the intrinsic similarity of monozygotic twins separated from childhood.

3.2. Changing the scope of reading is:

- 1) the mutation that result in loss or incorporation of one or more nucleotides,
- 2) disruption of the translocation phase,
- 3) disruption of the transcription phase,
- 4) destruction of the process of cell fertilization.

3.3. Scheme corresponding to the inversion of chromosome segment is:

- 1) B B WHERE ^ A B VGD;
- 2) ABCGD ^ ABCBWGD;
- 3) ABWGDE ^ ABDGWE;
- 4) CML BUT ^ ABUSE.

3.4. Which are sexually transmitted diseases?

- 1) Daltonism,
- 2) Down's Syndrome,
- 3) Patau's Syndrome,
- 4) Edwards Syndrome.

The principle of evaluating the success of a test is constructed by the following scheme shown on Table 1. Thus, the number of points given to the student can vary from 1 to 85.

Table 1.
Assessment of test success on the entry level knowledge test for the subject
“The basis of Genetics”

Level of test	Correct answer rating and maximum grade rating	Qualitative rating
1 (10 questions)	1 point, maximum: 10 points	level of domestic knowledge
2 (15 questions)	2 points, maximum: 30 points	level of school knowledge
3 (15 questions)	3 points, maximum: 45 points	Level of special knowledge

By doing most of the first and second level assignments correctly, the student will show quite encouraging results both in terms of predetermined and future tasks. Students who have less than 10 points in Level 1 and Level 2 tests will either be offered a repeat course in general biology and genetics, or will be assigned additional independent work in accumulation to teaching the basics of genetics. Students performing Level 1 and Level 2, as well as Level 3 assignments partly, will demonstrate high results that will demonstrate their specific knowledge of genetics.

In the event of further progress in further studies, these students may be exempt from the study of particular subjects, focusing more on other parts of the course.

Based on the results of the entrance tests, the students are divided into 3 groups:

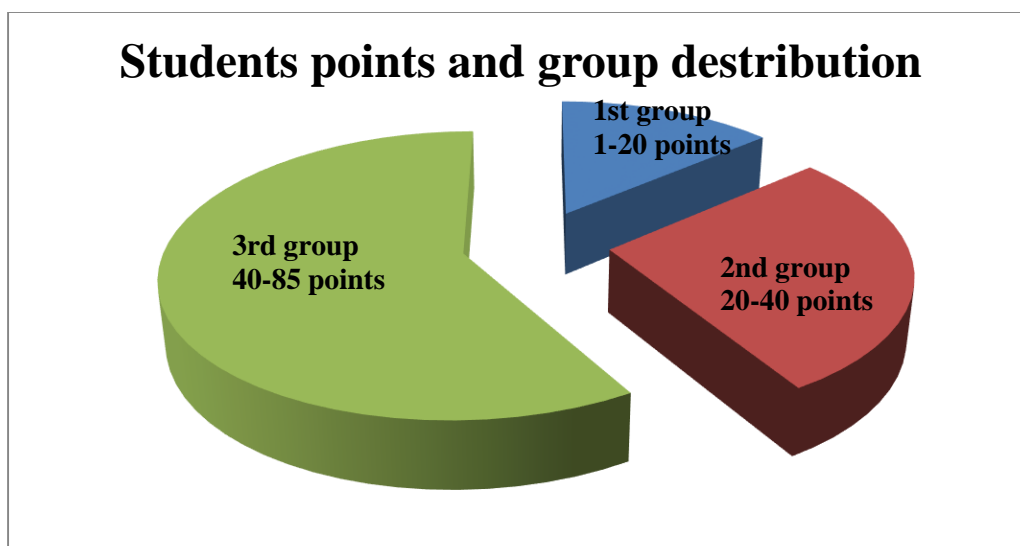
1st group, students with 1-20 points,

2nd group, students with 20-40 points,

3rd group, students with 40-85 points.

The research shows that only up to 5% of first-year students reach 60 points, with the majority of students show the results in the range of 20 to 40 points (Figure 1).

Figure 1. Statistical Distribution of 1st year students of ASPU Faculty of Special and Inclusive Education according to the scores from the entrance test of the subject “Genetics Basics”.



Of course, the pre-test method does not yet reveal the full depth and completeness of the knowledge, abilities and skills. But its main significance is not there. Based on the data obtained, the lecturer can plan the repetition and organize the study of the new material.

The variety of pedagogical forms of lectures, methodic as well as the form of organization of practical placements enables them to be delivered on the same topic, with varying degrees of complexity in the delivery of the material, or with different styles of active and interactive teaching methods (Slavgorodskaya, 2013).

A level-headed approach to the teaching process is also effective in organizing students' own classroom activities, as well as and extracurricular work organized out of classroom (Ozherelyeva, 2013).

In this sense, as useful pedagogical approach can be used the pre-selection of individual, thematic tests and assignments, as well as the choice of different complexity options for the whole course.

CONCLUSION

Thus, we divide the students into groups based on the results of the pre-test organized both during the practical (seminar) classes and while evaluation of the intermediate test assignments and final exam results. In conclusion it should be noted that according to educational didactic principles (Gulidov, 2005; Lobashev, 2006) the pre-testing process must comply with the requirements of objectivity (introducing uniform requirements to all students, fair assessment of everyone's knowledge), with an individualized and differentiated approach to knowledge assessment that will enable the lecturer too fully and adequately identify the student's knowledge.

We believe that just passing the entrance test on course of “The basics of Genetics” can help the teacher in determining an objective assessment of the student's individual level of knowledge. This form of pre-testing also allows the teacher to analyze the individual dynamics of the student's level of knowledge, thereby implementing sufficient pedagogical approach in determining the final grade.

This method of knowledge pre-testing can be used not only in the teaching of Genetics. It can be widely used in the teaching of many subjects within the frame of higher professional education, for which the school knowledge acts as basic. For example, these courses can be: "Human Anatomy and Physiology", "Neurophysiology", "Neuropathology" and so on.

REFERENCE LIST

1. Aleksandrova, M. A. (2008) Pedagogicheskiy control v processe vospitaniya: metodicheskiye rekomendacii (Pedagogical control in the process of education: methodological guidelines), M. A. Aleksandrova, N.A. Alekseeva, E. N. Stepanova, M. Sfera, 160 s.
2. Amonashvili, Sh. A. (1984) Vospitatelnaya I obrazovatel'naya funkcii ocenki obucheniya: Eksperimentalnoe pedagogicheskoe issledovanie (Educational functions of learning assessment: Experimental pedagogical research), Sh. A. Amonashvili M.: Pedagogika, 296 s.

3. Avanesov, V. S. (1994) Nauchniye problem testogogo kontrolya znaniy (Scientific problems of test knowledge control) / V. S. Avanesov, M.: Issledovatel'skiy centr problem kachestva podgotovki specialistov, 135 s.
4. Gulidov, I. N. (2005) Pedagogicheskiy control i ego obespecheniye (Pedagogical control and its support) / I.N. Gulidov. M.: Forum. 2005. 240 s.
5. Krilova, M. N. (2013) Sposobi motivacii uchebnoy deyatelnosti studentov vuza (Methods of motivating the educational activities of university students) II Perspektivy nauki i obrazovaniya, №3. s. 86-95.
6. Lobashev, V. D. (2006) Socialno-psikhologicheskie aspekty kontrolya znaniy (Socio-psychological aspects of knowledge control) II Obrazovanie v sovremennoy shkole, №3, s. 30-39.
7. Ozherelyeva, T. A. (2013) Razvitiye metodov testirovaniya (Development of testing methods) II Perspektivy nauki i obrazovaniya, №6. s. 20-25.
8. Slavgorodskaya, E. L. (2013) Aktivniye sredstva organizacii uchebno-professionalnoy deyatelnosti studentov (Active means of organizing educational and professional activities of students) II Perspektivy nauki i obrazovaniya, №3. s. 96-105.
9. Smirnov, S. D. (2010) Pedagogika i psikhologiya visshego obrazovaniya: ot deyatelnosti k lichnosti (Pedagogy and psychology of higher education: from performance to individual) / S. D. Smirnov. - M.: Izdatelskiy centr "Akademiya", 400 s.

APPLICATION OF MOTION CAPTURE SYSTEMS IN ERGONOMIC ANALYSIS

AUTHORS' DATA:

Tigran Petrosyan, MD, PhD, Associated professor

Department of Kinesiology, Armenian State Institute of Physical Culture and Sports

Lecturer

Contacts: tigpetrosyan@mail.ru

Arayik Dunoyan, MSc, Assistant professor

Department of Kinesiology, Armenian State Institute of Physical Culture and Sports

Lecturer

Contacts: adunoyan@mail.ru

Hasmik Mkrtchyan, MSc, Assistant professor

Department of Kinesiology, Armenian State Institute of Physical Culture and Sports

Lecturer

Contacts: hasmikmh@mail.ru

ABSTRACT

Currently different methods are used for ergonomic assessment and analysis. This review tries to show how motion capture technology is applied in the process of ergonomic assessment. The goals of the analysis were to identify the most adequate method for objective assessment of ergonomics. The results show that the optical motion tracking systems with special software can be used to perform digital analysis of body motion. These systems do not require long set up time, majority of them are portable and the sensors are available in the market for a low cost. Movements of the working person are captured without special clothes equipped with markers. Though the optical systems could be acceptable in a wide range of tasks, they have certain limitations in ergonomic analysis. The performance of optical systems depends on a number of variables such as lighting, type of movements, distance from the object and environmental artefacts. The performance of existing systems is not yet completely reliable, but the technology is on the path of improving its accuracy. There are also other mechanical and magnetic technologies used for

ergonomic analysis. This review shows that ergonomic simulations using the motion capture technology significantly improves the quality of ergonomic analysis.

Keywords: Ergonomics, Ergonomic analysis, Motion Capture Technology, Product Development, Work related injuries.

INTRODUCTION

Ergonomic analysis is widely used in industry and product development. The word has a Greek origin – “ergon” meaning work, and “nomos” - laws. Ergonomists together with engineers evaluate ergonomics to ensure the job safety, develop products, ensure the safety of working environment, abilities and limitations of the employed professionals (IEA, 2006). Though the term ergonomics is perceived in different ways around the world, the International Ergonomic Association (IEA) has introduced a full definition of this term: “Ergonomics is the scientific discipline concerned with the understanding of interactions among humans and elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human well-being and overall system performance” (IEA, 2006). The sphere of ergonomics encompasses three different areas: organizational ergonomics, cognitive ergonomics and physical ergonomics. Physical ergonomics studies human anatomical, physiological, anthropometric and biomechanical characteristics. Aspects that the physical ergonomics is concentrated on are the working postures, workplace layout, repetitive movements, work related musculoskeletal disorders, safety and health. The importance of the ergonomic analysis can be shown on the example of vehicle production.

The production of a vehicle starts from its design and the process of design is a complex task with different issues to consider (Högberg, Bäckstrand, Lämkuil, Hanson et al., 2008). First of all, the design activities have to ensure that the buyer can use all the necessary functions in a comfortable and safe manner. Designing a vehicle for production requires conditions and capabilities to ensure the large volume of production, recruiting the required number of employees (Faraway & Reed, 2007). Though the automotive industry is rather advanced, variety of parts and details used for the vehicle production are made and produced manually, which significantly affect the ergonomics (Klippert, Gudehus, Zick, 2012). A large number of studies have shown that proper ergonomics can not only improve the workers’ health but also have a positive economic impact on the company (Fritzsche, 2010). A study conducted in 1995 revealed that the rate of quality

deficiencies identified in the car assembly process was three times higher in work tasks and procedures where ergonomic problems were obvious (Eklund, 1995). It is therefore essential to implement the ergonomic workplace design when starting the layout and facility planning for the designed production, in order to reduce the extra costs in the future production process (Klippert, Gudehus, Zick, 2012). It is highly suggestive to consider the ergonomics in early stages of the product development process, analyzing the interaction of a person with the product. Reduction of the negative impact on human health and consequently on economics can lead to the manufacturing of more sustainable products and sustainable cohort of users in the society.

The process of the vehicle design that fits both the needs of customers and requirements of the workers, considering the possible limitations, is based on the ergonomic assessments performed during the product development process. In the past, this assessment was performed by building a sequence of physical prototypes, that allowed to evaluate the important or necessary parameters (Faraway & Reed, 2007). Nowadays, the process of product realization is mainly constrained by high cost and time restrictions where the major costs are based on an inefficient physical work (Högberg, Bäckstrand, Lämkuil, Hanson et al., 2008). For the recent decades the computer based visualization or simulation methods are widely used for early evaluation, and verification of critical design parameters specific for the ergonomics (Chaffin, 2005; Klippert, Gudehus, Zick, 2012). For this purpose, digital human models (DHM) are used by design engineers in early stages of product development processes. These models allow engineers to simulate the user performing a specific task or movement. DHMs are implemented in the design of aircraft, cars and trucks (Faraway & Reed, 2007). These so called manikins are widely used in the vehicle industry to improve the interior design and manufacturing workplaces (Chaffin, 2005). This touches also the question of physical ergonomics for assembly workers. Research evidence indicates that DHMs can reduce the engineering costs and have to be implemented in the early development process (Chaffin, 2005; Klippert, Gudehus, Zick, 2012). By reducing the production time and costs, these technologies increase the profitability, as well as the product quality (Högberg, Bäckstrand, Lämkuil, Hanson et al., 2008). DHM are used not only in the industry or the engineering field. They are applied as research tools in neuroscience, biomechanical analyses (e.g. gait studies), sports performance analysis, in the movie and videogame production, and other relevant fields (Faraway & Reed, 2007; Jung, Zhou, Ramsey & Krovi, 2013). Depending on the purpose of use, the type and functions of these systems differ (Jung, Zhou, Ramsey & Krovi, 2013).

Before setting up a DHM analysis, the specialist has to specify the population and other anthropometric data that are peculiar for the user, position and posture relevant for the simulation [1]. The way people move and interact in a vehicle or workplace environment is extremely versatile, depending on their actual physical size, age, gender, and other parameters. Naturally the human behavior is different in the same setting and difficult to predict (Faraway & Reed, 2007).

THE BODY

The review tries to show possible application of motion capture systems in ergonomic analysis and injury prevention. For this reason, separate subunits of the article present the functional capabilities of motion capture systems and some aspects and specifics of work related injuries.

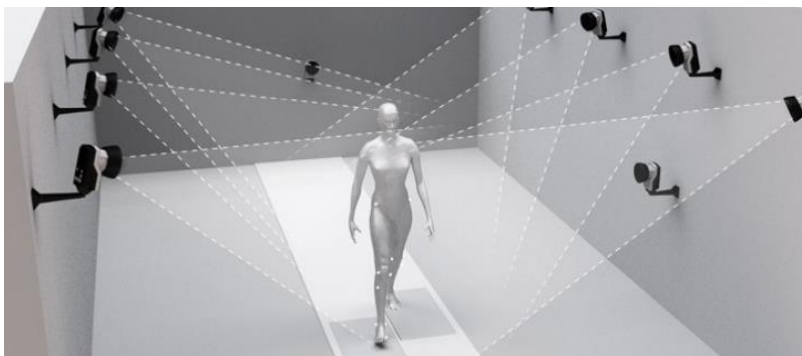
MOTION CAPTURE TECHNOLOGY

Motion capture technology is used to register motions of objects and people in variety of settings and for different purposes. The captured and registered data can be used digitally in many different ways (Field, Pan, Stirling & Naghday, 2011). For the last few decades' motion capture has been widely used in the film making industry to create realistic 3D movements of animated characters (Faraway & Reed, 2007). In research the motion capture has also been widely used for biomechanical analysis in sports medicine, rehabilitation medicine and athletic training (Pfister, West, Bronner & Noah, 2014). As mentioned above for over a quarter century the motion capture is used as an analysis tool for the design of different products and ergonomics analysis. In ergonomic analysis the motion capture tools have the capability to perform numerous simulations of the production process and to virtually analyze scenarios where manufacturing operations are performed (Jung, Zhou, Ramsey & Krovi, 2013). Advanced tracking algorithms used in motion capture and data processing have led to maximum decrease in measurement errors (Field, Pan, Stirling & Maghday, 2011). Software used with the motion capture systems usually provides accurate analysis. But the technology itself and the software are very costly and not always available in industrial settings where they are of great value (Pfister, West, Bronner & Noah, 2014). In general, the ergonomic evaluations are based on performance analysis of the working person accomplishing a specific task. The analysis has to be conducted by an ergonomically trained specialist to obtain a full overview of the task. After the registration, the gathered data has to be

analyzed scrupulously. Motion capture technology provides a more detailed analysis than any other human observation can produce, with the possibility to register 30 to 120 frames per second. Usually, the motion capture setup time is about 20 min, but still this method is considered more efficient than any other tool or technology (Klippert, Gudehus, Zick, 2012). However, there is no a unique opinion about the motion capture systems and digital human models. According to Chaffin (2005) the posture analysis of the studied subject should not be used together with captured motion analysis; the software should do that for you in different modes and. Simulating a very simple task, such as walking to a table and picking up a tool, can require time consuming manual posturing at each critical transition point of the performed motion. This kind of animation process can require from the analyst at least several hours to simulate a task that would only take a few seconds for the individual to perform.

Three main types of tracking methods have been developed during the decades of motion capture development; mechanical, optical and magnetic systems (Faraway & Reed, 2007). Each method has its strengths and weaknesses, based on the purpose of the use. The optical system requires application of reflective markers, that are placed on specific hallmarks of the person performing the specific task or the studied motion. These target markers are then captured and triangulated by several registering cameras using infrared (IR) light. Before motion can be tracked, the fixed markers have to be identified by the computer software, named by the investigator (such as left shoulder, right shoulder and so on). However, some active optical systems offer special markers that do not require pre-identification (Faraway & Reed, 2007). The accuracy of these type of optical systems is often very good, with a possible error of one millimeter or less. This kind of tracking process is rather time consuming and the precise positioning of the markers are essential. If a marker is misplaced, slips or becomes blocked, the tracking will be inaccurate. Motion capture systems like this are mostly limited to a lab setting and are used for the research purposes (Faraway & Reed, 2007). Qualisys is a Swedish company that specializes in motion capture, providing high-precision optical motion capture systems to clients over the world. Qualisys systems are applied in different fields, for example in medical research, where doctors and physiotherapists can improve treatment by obtaining a better understanding of the biomechanics captured by the motion capture system. The same systems are also being used in industrial settings, sports science, media and entertainment.

Picture 1. Motion capture system for the ergonomic analysis



The other type of motion capture system – the magnetic system consists of three orthogonal coils installed in a transmitter. The relative magnetic flux between the transmitter and receiver allows to determine the location and orientation of the receiver. The markers are placed on the exterior of the body, whereas in other motion capture systems the markers are placed on central points of joints (Faraway & Reed, 2007). Compared to optical motion capture systems, magnetic systems have certain advantages when the motion capture is performed in narrow spaces. Although almost all magnetic systems require markers to be wired, restricting the motion and interfering with the movements of the subject. Another disadvantage of the magnetic systems is their sensitivity to metallic objects in the environment (this is more critical in industrial settings), as well as to electrical fields produced by other experimental equipment (Faraway & Reed, 2007; Haggag, Hossny, Haggag, Nahavandi, et al., 2014). Polhemus is a well-known prototype of the magnetic tracking system that has been used within the military since 1969.

Mechanical systems can capture motion through a set of goniometers or accelerators that are fixed on the subject, either using separate goniometers or a full suit with variety of registering tools. When the subject is moving, these goniometers are registering the motion, and the data is sampled and stored in a device. Mechanical systems offer an advantage that the other systems lack: they do not interfere with light or magnetic fields, and they don't need to be calibrated before each registration, which is very time consuming. This type of mechanical system was used to produce the animated movies.

WORK RELATED INJURIES

Work injuries and ergonomic analysis individuals involved in professional activities aims to reduce the rate of injuries. The best example can be the trucking Industry. Truck drivers are

frequently injured, and other than the accidents slip and falls in their work are the most common reasons for work related injuries (TSWEA, 2014). In 2003, the number of work injuries that lead to lost workdays was twice higher in truck drivers compared to the average of all professions (not only the drivers) in Sweden, and about half of these work related injuries resulted in the sick leave for longer than two weeks (TSWEA, 2014). The most common locations of fall accidents have been reported to be at the back of the truck (49.1 %), the steps (18.5 %) and the cargo (16.5 %) [9] and six out of ten falls were from a higher distance than one meter above the ground (Jones & Switzer – McIntyre, 2003; TSWEA, 2014). The most common types of injuries due to slips and falls were strains/sprains, contusions, abrasions and fractures (Jones & Switzer – McIntyre, 2003). In the study conducted by Jones and Switzer–McIntyre the most common areas of body injured during work were lumbar (19.7 %), shoulder (9.7 %), wrist (9.3 %) and knee (8.2 %) (Jones & Switzer – McIntyre, 2003). In a study, conducted in the US, 3053 cases of work related injuries were analyzed, from which 277 cases (9% of the total cases) were accidents caused by the ingress/egress. The primary causes of these injuries were wet steps because of rain, truck washing, snow or ice built up on or at the steps. On the other hand, the results presented by Jones and Switzer–McIntyre showed that 79 % out of the all reported fall cases were not caused by environmental factors (Jones & Switzer – McIntyre, 2003). It is noteworthy that from all cases of fall injuries there were three times more egress than ingress accidents. Injuries caused by work environment are a substantial cost to companies and employers, as well as to employees (Jones & Switzer – McIntyre, 2003). The high risk of injuries among the track drivers forced to implement ergonomic analysis in the truck development process. Ingress/egress has been a central issue in ergonomic analysis and development of the cabs. For example, this aspect is extensively developed by the Scania's department of ergonomics to reduce the risks of injuries.

By capturing motion of employees, a large volume of information could be obtained that cannot be gained by simple visual observation. The motion capture records joint angles and exact positioning of body parts transforming them into a digital format. The digital data is saved, has an easy access for further analysis. The data output is used in different ways: identification of critical joint angles that may lead to an increased risk of injury, verification of fulfilled ergonomic recommendations. However, the digital human models with simulating movements have been shown to be extremely time consuming. One of the mechanisms to reduce the preparation and simulation time is the registration of actual movements or procedure by the motion capture system,

then step by step designing a simulated movement model. In case of the ergonomic analysis performed for the truck drivers, movements are recorded in relation to a simplified model of the cab. The recorded chain of movements is later transformed to a digital human model and compared to the actual model of the newly implemented design concept. This approach is applied to test the new design concepts when there is a need to evaluate the possibility in which manikin would collide with objects, or this method might be used to evaluate if different objects inside the cabin or out of it are within a driver's reach.

Picture 2. laboratory setting for the ergonomic assessment



This approach can lead to much earlier verifications of ergonomics, which is able to save time and resources, compared to the other classic DHM simulations used nowadays. Search of the research databases has revealed overwhelming number of research studying the truck driver ergonomics and the incidence of work related injuries (TSWEA, 2014). Implementing the cab that has different structure and design may decrease the incidence of injuries, and motion captured could be the best method for identifying the issues related to the ingress. The goal of visual analysis could be the different positions of cab steps that affect the way drivers place their foot on steps. Egress accidents and rate of egress injuries are three times higher compared to ingress injuries. Lack of visibility in egress process might be the primary cause of these injuries. It is possible to conduct a visibility test using the virtual reality (VR) glasses. When wearing a pair of VR-glasses, the individual experiences the computer aided design environment in 3D. Using together the motion capture and virtual reality, researchers are able to get a better idea of how a user would react or move when interacting with the new environment. Systems like Kinect and IMMA can provide a quick method for motion capture and analysis. They have been extensively used in facilities of Scania, without any other expensive equipment or technology. On the other hand, more

detailed analysis could be performed with a more sensitive and accurate system if required, only in a well-equipped research lab.

Based on the research evidence a question arises: which motion capture systems to use in the industry and ergonomic analysis. When looking for motion capture systems that are adequate for the truck cab development, there are different options to choose between. Other than the Kinect sensor and IMMA software there are many other systems. The type of the system applied depends on the purpose of the study or the goal of applied evaluation. In trials where the goal is to capture the exact positioning of the subject with accuracy of 1 mm or less, the motion capture should be performed by advanced optical systems. The only disadvantage of these systems is the cost. These systems are very expensive, require expert knowledge of the human body and placement of markers in the right location. The industries and manufacturers that don't have their own research units are trying to collaborate with labs that have the technology and experience in using motion capture systems. Though the optical systems are more advanced than the other technology they not always fit the goals or interests of the industrial company. There are certain limitations for optical systems when registering a task inside the cab. The limitations are due to the restrictions regarding a free line of sight. In such cases, mechanical systems are a better option as they do not depend on the free line of sight. The mechanical systems have advantages when capturing movements while driving. The applied mechanical sensors and goniometers are placed on the parts of the body that are involvement in the specific task performance.

CONCLUSION

Motion capture technology has potential to serve as a comprehensive tool for ergonomic assessments used for the product development process in vehicle industry, or other fields. Motion capture technology enables registration of movements in 3D mode, which is not possible to gain by only observing a motion, or registering it with other methods and simple cameras. Recording the joint angles and precise positioning of body parts is easily transformed into a digital format and saved for further assessment and analysis. The data processing can provide the critical joint angles that possess an increased risk for injury, or to verify that all ergonomic recommendations are properly followed. Motion capture recording is based on data collected from the real human movements and behavior, providing an objective background for comparison and analysis. Simulation models require a long set up time, whereas motion capture enables to track the motions

rapidly and analyze them in a digital format. Different design concepts can be tested using this technology, providing an early verification of ergonomic requirements, and decreasing the production and health related costs.

REFERENCE LIST

1. Chaffin, D. B. (2005). Improving digital human modeling for proactive ergonomics in design. *Ergonomics* 48(5) 478 – 491
2. Eklund, J. (1995). Relationships between ergonomics and quality in assembly work. *Applied Ergonomics*, 26(1), 15–20. doi:10.1016/0003–6870(95)95747–N
3. Faraway, J. & Reed, M. P. (2007). Statistics for Digital Human Motion Modeling in Ergonomics. *Technometrics*, 49(2), 277–290. doi:10.1198/004017007000000281
4. Field, M., Pan, Z., Stirling, D. & Naghday, F. (2011). Human motion capture sensors and analysis in robotics. *Industrial Robot: An International Journal* 38(2) 163–171
5. Fritzsche, L. (2010). Ergonomics Risk Assessment with Digital human Models in Car Assembly: Simulations versus Real Life. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 20(4), 287–299. doi:10.1002/hfm.20221
6. Haggag, H., Hossny, M., Haggag, S., Nahavandi, S. & Creighton, D. (2014). Safety applications using Kinect technology. In *IEEE International Conference on Systems, Man, and Cybernetics 2014*. San Diego, CA. October 5–8, 2164–2169
7. Högberg, D., Bäckstrand, G., Lämkuil, D., Hanson, L. & Örtengren, R. (2008). Industrial customisation of digital human modeling tools. *Int. J. Services Operations and Informatics* 3(1),53–70
8. International Ergonomic Association (2006). What is ergonomics? Retrieved on 2014–12–12 from: <http://www.iea.cc/>
9. Jones, D. & Switzer–McIntyre, S. (2003). Falls from trucks: A descriptive study based on a workers compensation database. *IOS Press*, 20 (2003), 179–185
10. Jung, S–K., Zhou, X., Ramsey, D.K. & Krovi, V.N. (2013). *A Comparison Study of Human Motion Capture and Computational Analysis Tools*. Buffalo, New York.
11. Klippert, J., Gudehus, T. & Zick, J. (2012). *A Software–Based Method for Ergonomic Posture Assessment in Automotive Preproduction Planning: Concordance and Difference*

in Using Software and Personal Observation for Assessments. *Human Factors and Ergonomics in Manufacturing & Service Industries* 22(2) 156–175

12. Pfister A., West, A.W., Bronner, S. & Noah J. A., (2014). Comparative abilities of Microsoft Kinect and Vicon 3D motion capture for gait analysis. *Journal of Mechanical Engineering & Technology* 38(5), 274–280.
13. The Swedish Work Environment Authority (2014). Transportbranschen. Korta arbetsfakta, Nr 2. The Swedish Work Environment Authority (2004). Last- och långtradarförare. Korta sifferfakta, Nr 3

**FULFILLING A NEED IN ARMENIA: THE CREATION OF THE OCCUPATIONAL
THERAPY GUIDEBOOK FOR INCLUSION**

AUTHORS' DATA:

Victoria Babikian, MS, OTR/L

Premier HealthCare

Occupational Therapist, MS in Occupational Therapy, OTR/L

Contacts: BabikianOTRL@gmail.com

ABSTRACT:

In Armenia children with disabilities are often stigmatized and separated from the community. Some are sent to institutions or orphanages, some are hidden in the home, and others are hastily placed into schools and ignored in classrooms. However, Armenia is moving towards a more inclusive society. Victoria Armineh Babikian volunteered with Children of Armenia Charitable Fund (COAF) in 2017; she was their first ever Occupational Therapist. She introduced a different perspective- providing holistic care by addressing self-care needs and enhancing physical, cognitive, and sensory skills for children with intellectual and developmental disabilities. Upon completion of her volunteer experience, Babikian needed a sustainable approach to continue increasing knowledge on the care of children with disabilities. Therefore, she compiled the Occupational Therapy Guidebook to Inclusion, an 80-page manual that provides clear information about common diagnoses, simple exercises, and functional activities using homemade tools to enhance strength, coordination, cognitive processing, sensory regulation, and behavior among children with disabilities. This guidebook will be published and distributed throughout Armenia.

The purpose of the Occupational Therapy Guidebook to Inclusion is to enhance disability resources for every region of Armenia, especially within rural communities.

Keywords: Occupational therapy, international, inclusion, inclusive education, disability, volunteer, development, pediatrics.

INTRODUCTION

In 2017, Victoria Armineh Babikian volunteered in Armenia for eight months with Children of Armenia Charitable Fund (COAF) providing occupational therapy to children with disabilities in rural villages. During her experience, she noticed there were children with disabilities kept in their homes and hidden from the community due to shame and unacceptance. There were teachers who ignored children with special needs in their class of 30+ young students. There were therapists working with complex cases who were only addressing one need or performance area. And there were parents and grandparents who knew their child needed extra help but did not know what was the first step. Babikian's aim was to answer the following questions: What services are already provided? What services are lacking? How can occupational Therapy (OT) contribute to this team and to the village?

Although there are steps towards inclusive education in the capital city such as resource rooms and visiting ABA/OT therapy, the rural regions are still transitioning. Services are scarce in these areas, and non-profit organizations such as COAF have stepped in to provide teacher training, accommodations, and family services for children with special needs. COAF advocates for these children and works with families to provide free social work services to individuals and families, and has partnered with many schools to provide clinicians for weekly speech therapy and psychology services as well as after-school tutoring for children with learning difficulties. They filled a gap in the rural Armenian education system by initiating disability services. However, it was apparent that these children would also benefit from occupational therapy, the holistic approach that addresses self-care needs and enhances physical, cognitive, and sensory skills, to address performance and participation in all occupations or activities of daily living.

The first mission was spreading awareness of occupational therapy. How would people collaborate with an OT if they did not even know what they do? Babikian presented at an annual staff development conference to introduce the field to the psychologists, social workers, after-school teachers, and speech therapists from the 11 regions of the country. She was able to provide a deeper understanding of the training and approach to assessments, and demonstrate activities or adaptations provided. There were many professionals who identified a lack of resources for school-age children with developmental disabilities; they were receptive to incorporate recommendations and strategies into the program and wanted the new OT to visit their respective regions. Babikian found the way to fit into the team and provide a unique service.

Armineh developed a systematic approach to evaluating children and documenting progress. This included a referral form, an occupational therapy evaluation, and daily progress note templates. The evaluation form assessed the child's current levels of cognition, visual motor and perceptual skills, fine and gross motor skills, sensory processing and occupational performance. This was used to measure baseline performance at the start of treatment, as well as to monitor progress at the final session.

The Person-Environment-Occupation Model guided Babikian's planning and program development to provide client-centered care in the rural villages. She looked at the impact of the person, environment, and occupation on performance and daily activities (Law, Cooper, Strong, Stewart et al., 1996). Below is a real example to demonstrate how to PEO Model guided Armineh's evaluation and treatment.

- **Person:** George is an 8-year-old boy with Down's Syndrome in the second grade. He has muscle weakness, decreased fine and gross motor coordination, visual perception, attention, and memory. George is a very happy and sociable child who enjoys going to school and playing soccer.
- **Environment:**
 - Culture: Armenia is a collectivist community; grandparents, parents, kids, and cousins all live together and are expected to take care of each other. Individualism and independence are not valued as much. In the rural villages, this is even more apparent as resources are scarce; neighbors and families need this support in order to survive. George lives with his mother, father, paternal grandmother, and sister. Their cousins, aunts, and uncles also live in the village.
 - Family: There is a strong stigma against people with disabilities. Community integration is not valued for children with special needs. George's father believed his child cannot learn and did not want to send him to school for fear of other villagers knowing about George's diagnosis. The grandmother approached COAF asking for help. COAF advocated for George and got the family to send him to school. He started when he was 7 years old, and now receives psychology, speech therapy, and after-school tutoring with COAF. COAF also provides social work and medical services for the family.

- Language: In Armenia families speak Eastern Armenian, a dialect unique to people from Armenia. It has a different accent, conjunctions, and vocabulary from Western Armenian, which is what Armineh spoke as diasporan. This made both expressive and receptive communication a challenge. She had to learn Eastern Armenian for George to understand her, as he had never met an Armenian from another country before.
- Schools: Schools in the villages are in poor condition. Many lack running water. There are frequent electricity cuts and school closures in the winter because of a lack of heat in the classrooms. This made it a challenge to have regular weekly sessions.
- **Occupations:**
 - Education: George is able to recognize some numbers and can write his first name. However, he is behind in his classes, especially reading and mathematics. His second-grade peers are completing word problems while he cannot find the numbered pages in the textbook. Often times he was observed drawing in his notebook because he could not follow the teacher's directives.
 - ADLs/IADLs: George's mother did everything for him. As a result, he required maximum assistance with basic self-care skills (i.e. toileting, dressing, hygiene, bathing). During school hours, the teacher called his mother to come to school to take him to the toilet. Because the toilets in the school are broken, his mother carried him over the toilet, then wiped and dressed him. He frequently has accidents and his mother has to come to school to change him.
 - Play/Leisure: The children in the village are often found playing in the dirt roads picking fruit trees, playing soccer, or jumping around the school's playground. Before attending school, George did not have many friends. He is now well-known throughout the school and enjoys playing sports with neighboring children.

For intervention, both direct and indirect service models were utilized. In eight villages closest to the capital city, individual OT sessions were provided weekly. The intervention approach required a unique balance between respecting the culture and educating about the importance of independence as the child develops. Most of the activities were inspired by items found in the home or school. For example, threading beads onto raw spaghetti for fine motor

skills, drawing in shaving cream for tactile exploration, creating obstacle courses from school playgrounds, entrance ramps, and stairs for strengthening and coordination. Caregiver education was also provided about the services and adaptations available to children with special needs. Handouts were given with home exercises and pictured sequences for self-care skills such as dressing, toileting, tooth-brushing. Babikian also hosted a teacher in-service about inclusive education and the importance of adaptations and modifications to enhance student participation and school performance.

Consultative services were provided in further regions. This included addressing areas of concern identified by caregivers and professionals, providing functional intervention techniques, recommendations, or handmade adaptations for the local speech therapists, after-school teachers, or psychologists to incorporate OT strategies into their sessions.

After seven months of intervention, many of the children demonstrated progress in school-related skills. COAF understood the scope of occupational therapy and valued its contribution to child development. Financial restrictions did not allow for the organization to hire an occupational therapist upon Armineh's departure. However, Babikian saw firsthand the outcome of her efforts. Parents, teachers, and clinicians felt more equipped to address special needs, children were receiving individualized care. This previously ignored population was now more independent in daily activities, were included in community events, and had improved quality of life.

Upon completion of her volunteer experience, Babikian wanted a sustainable approach to be able to continue this work; she knew that annual visits or intermittent workshops would not be sufficient. Thus, she decided to create the Occupational Therapy Guidebook to Inclusion. This guidebook includes clear information about common diagnoses, simple exercises, and functional activities using homemade tools to enhance strength, coordination, cognitive processing, sensory regulation, and behavior among children with disabilities. The purpose of the guidebook is to increase the understanding of this population and to help caregivers provide early intervention and holistic care across all settings. The Occupational Therapy Guidebook to Inclusion can help increase resources for disability services, promote inclusion for children with disabilities and enhance their independence in the home, school, and community.

THE BODY

Children with disabilities are often viewed as bystanders, objects of pity or charity, and ostracized from communities. This mentality was strongly promoted within the Soviet Union as there was a large emphasis on uniformity. Many educators would claim, "There are no invalids in the USSR!" They were opposed to inclusion, stating that "the mentally retarded . . . cannot be builders or creators of a new life," and the most that could be demanded from such children is that they "not keep others from building" (Vygotsky, 2012).

Since the fall of the Soviet Union, Armenia has been attempting to shift their mentality towards inclusion. In 2006, the United Nations compiled a protocol, *Convention on the Rights of Persons with Disabilities*, to change global attitudes and approaches towards this population. It emphasized that individuals with disabilities have rights, are capable of making decisions, and should be active members of society. Armenia signed the Convention in 2007 with formal ratification in 2010 (UN CRPD, 2019). However, implementation has been a struggle. There are approximately 200,000 individuals with disabilities in Armenia. Thousands of disabled children are institutionalized even though more than 90% have at least one living parent (HRW, 2017; HRW, 2018; HRW, 2018). Less than 20% have completed secondary education, compared to 84% of the overall population. Over 90% of adults with disabilities are unemployed, compared to 18% of the general population (Mijatović, 2018). It is evident that this population is greatly underserved because of stigmatization and limited resources for educators, clinicians, and service providers to properly address the needs of Armenians with disabilities.

Armineh Babikian witnessed this issue when she was a Birthright Armenia volunteer in 2017 with Children of Armenia Charitable Fund (COAF). She met many families who were ashamed of their non-typical offspring and required strong advocacy to send them to school. Then the children were placed into classrooms with teachers who were not trained to address special needs. This resulted in a gap in services, as well as a lack of appropriate support, education, and opportunity for these children. Babikian believed that occupational therapy can help bridge the gap, as this unique profession is involved in education, rehabilitation, and home-care settings. Occupational therapy (OT) helps individuals become independent in any activity that "occupies" their time. This can range from basic self-care tasks such as getting dressed, to playing sports, writing homework, or performing one's job. An OT (1) assesses the individual's lifestyle, roles, and routines, (2) addresses the physical, psychosocial, and sensory skills required to perform daily

tasks, and (3) analyzes the environmental accessibility and safety. The clinician then provides individualized therapy or adaptations for optimal independence. Occupational therapists work in hospitals, long-term care facilities, rehabilitation or developmental centers, schools, and in the home. They provide a valuable service that promotes inclusion and quality of life for individuals with disabilities. However, this is a small field in Armenia. Khachatur Abovyan Armenian State Pedagogical University houses the only OT program in the nation. There are approximately 100 occupational therapists, or “ergotherapists,” throughout Armenia. Most are employed in Yerevan and there is a small portion in Gyumri; thus rural regions are left without this crucial service. As a result, there are many children relying on caregivers for maximum assistance, parents who are often exhausted and frustrated, and teachers who feel overwhelmed because they do not have the right tools to serve this population.

The Occupational Therapy Guidebook to Inclusion can add to this toolkit and increase disability resources. The guidebook provides simple clear information about common diagnoses, exercises with diagrams to strengthen physical, cognitive, sensory processing, and behavioral skills, as well as practical classroom strategies. It aims to enhance participation in school, self-care, leisure activities, and community integration for the children of Armenia. All tools and activities described can be made with simple household items. The Guidebook also includes worksheets which can be photocopied and a resource library of Armenian disability services. This guidebook will be distributed for free to all who care for or work with children with disabilities. In addition, free workshops will be hosted in each region at local developmental centers and schools to ensure comprehension, demonstrate exercises, and answer specific questions.

The emphasis of this Guidebook is inclusion. By spreading knowledge and strategies, the author aims to decrease occupational injustice for children with disabilities in Armenia. Occupational injustice can come in four forms: occupational alienation, deprivation, imbalance, and marginalization. Inclusion can decrease alienation, allow for participation and balance in activities, and remove marginalization by providing opportunity for this population (Townsend, 2012). In fact, everyone benefits from inclusion. Research shows that inclusion can lead to better learning outcomes for all children, not just children with disabilities. It promotes tolerance, enables social cohesion, and provides equal participation in society. Financially, inclusion is more cost effective than separated schooling and produces inclusive labor markets which lead to a more efficient social economy (UNICEF, 2017). Ultimately everyone benefits from inclusion!

Therefore, this guidebook can not only help caregivers of children with disabilities, but also the greater public of Armenia.

ANSWER/CONCLUSION/SUMMARY:

The Occupational Therapy Guidebook to Inclusion will provide holistic occupational therapy strategies that caregivers, teachers, and clinicians can utilize with children with various developmental, intellectual, or physical disabilities in order to increase independence and quality of life. It can promote inclusion, decrease stigma, and provide new opportunities for Armenian children with disabilities.

REFERENCE LIST

1. Human Rights Watch. (2018). "Armenia: Children isolated, needlessly separated families." Retrieved from
2. <https://www.hrw.org/news/2017/02/22/armenia-children-isolated-needlessly-separated-families>
3. Human Rights Watch. (2018). "When Will I Get to Go Home?" | Abuses and Discrimination against Children in Institutions and Lack of Access to Quality Inclusive Education in Armenia. Retrieved from <https://www.hrw.org/report/2017/02/22/when-will-i-get-go-home/abuses-and-discrimination-against-children-institutions>
4. Law, M., Cooper, B. A., Strong, S., Stewart, D., Rigby, P., & Letts, L. (1996). The person-environment-occupation model: A transactive approach to occupational performance. *Canadian Journal of Occupational Therapy, 63*, 9-23.
5. Mijatović, D. (2018). Upholding the human rights of persons with disabilities in Armenia. Retrieved from <https://www.coe.int/en/web/commissioner/-/upholding-the-human-rights-of-persons-with-disabilities-in-armenia>
6. Townsend, E. A. (2012). Boundaries and bridges to adult mental health: Critical occupational and capabilities perspectives of justice. *Journal of Occupational Science, 19*, 8-24.
7. UNICEF. (2017). Inclusive education- Including children with disabilities in quality learning: What needs to be done? Retrieved from

https://www.unicef.org/eca/sites/unicef.org.eca/files/IE_summary_accessible_220917_brief.pdf

8. United Nations. (2019). 15. Convention on the Rights of Persons with Disabilities. Retrieved from https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=IV-15&chapter=4&clang=en
9. Vygotsky, L. S. (2012). *The Collected Works of L.s. Vygotsky The Fundamentals of Defectology (Abnormal Psychology and Learning Disabilities)*. Retrieved from https://books.google.com/books?id=jUgyBwAAQBAJ&dq=.&source=gbs_navlinks

**LIVED EXPERIENCE OF PARTICIPATION IN DAILY OCCUPATIONS AMONG
OLDER PEOPLE LIVING IN SOCIAL HOUSE IN ARMENIA**

AUTHORS' DATA:

Zaruhi Harutyunyan, Researcher

Chair of Speech and Rehabilitative Therapy, Khachatur Abovyan Armenian State Pedagogical University

Lecturer

Contacts: h.zaruhi@gmail.com

Annika Öhman, OT, PhD Associate professor

Department of Health, Medicine and Caring Sciences, Division of Prevention, Rehabilitation and

Community Medicine, Linköping University, Sweden

Associate professor

Contacts: annika.ohman@liu.se

Mandana Fallahpour, OT, PhD Assistant professor

Department of Neurobiology, Care Sciences and Society, Division of Occupational Therapy,

Karolinska Institutet, Stockholm, Sweden

Assistant professor

Contacts: mandana.fallahpour@ki.se

ABSTRACT

The aim of this qualitative study is to explore the lived experience of participation in daily occupations of older people living on Social House in Armenia

A total of eight participants (1 male, 7 female) who lived in social house in Yerevan, Armenia were in-depth interviewed in this study. The Empirical Phenomenological Perspective method (Karlsson,1993) was applied for analysing the interviews to explore the meaning structure of participation in daily occupations in social house as expressed by participants' lived experiences.

Findings has identified three main characteristics of participation in daily occupations of eight older people living in Social House: *Change in place – change in life; being dependent as doer – not free in making choices; Lack of environmental possibilities in daily living.*

The findings of the study highlighted older people's personal perceptions of current living place and importance of supportive environmental conditions which facilitate or challenge their participation in daily occupations. Subjective perception of the current place of living and experienced changes in daily occupation were identified among older people living in social house, which limited their possibilities to choose and maintain autonomy in daily occupations and in their social participation.

Key words: aging, participation, daily occupations, older people, social house, occupational therapy.

INTRODUCTION

Being old does not mean being sick, but for healthy ageing it is important to enable older people to take an active part in daily life, to enjoy an independent and good quality of life (Maltby, 2004).

Like many other countries, Armenia is also considered as an aging country since about 14.6 percent of Armenia's population is aged 60 or over (UNPD WPP, 2010; UNFPA, 2013) and the responsibility of the society to ensure that older people could achieve meaning, quality of life, health, happiness and well-being, and continue to develop their own occupational potential, shape their community or participate in daily life in ways that are valuable and valued (Wilcock, 2005). Moreover, the quality of living environment is particularly important for older people, given that they spend a vast majority of their time in their home and many have spent most of their lives in the same neighbourhood (SEU, 2006). Home and neighbourhood environment effect on participation in everyday life and independence of older people, since older people experienced that their home is the locus and origin of performance-oriented and togetherness-oriented participation in everyday life (Haak, 2006; Arvidsson, Granlund & Tyberg, 2008).

Therefore, participation in daily life, being able to engage in daily occupation, is essential for all human existence (Wilcock, 1998) and has a positive influence on health and wellbeing (Brundtland, 1999; WHO, 2001). But life changes in older ages, like moving from private home

to social house or other residential arrangements, may cause disruption in their daily routines and activities. But as an engagement in daily occupations has an overall impact on people's health and wellbeing (Eales, Keating & Damsma, 2001; Christiansen & Townsend, 2004) and people's engagement in goal-directed and meaningful occupation is seen as a vital part of active aging and lived experience (Law, 2002; Rioux, 2005; Haak, Dahlin-Ivanoff, Fange, Sixsmith et al., 2007), therefore, it is important to find possibilities for engagement in daily occupations and be adapted to life's challenges.

Theoretical literature has stressed the importance of environment that facilitates or inhibits participation in daily life among different populations (Law, 2002; Kielhofner, 2008;). Previous empirical literature has also stressed on the influence of home and neighbourhood environment in participation and independence among older people (Husserl, 1970; Haak, 2006; Haak, Fange, Iwarsson & Ivanoff, 2007).

However, there is still lack of knowledge regarding how older people who live in social house experience their participation in daily occupations in Armenia.

LITERATURE REVIEW

Aging, participation in daily occupations of older people

Aging is an accumulation of changes in a person over time, general starting from 65 years of age (Heim, Wehnelt, Grande, Huber et al., 2013). Older people while participating in daily life and daily occupations remain their ability to control and manage different life situations (WHO, 2012).

According to the International Classification of Functioning, Disability and Health (ICF) participation defined as "involvement in a life situation" or as "the lived experiences' of people in the actual context in which they live" (WHO, 2001; WHO, 2012) which is important aspect of human life in health and well-being. The concept of occupational participation used by the Model of Human Occupation (MOHO) refers to "the engagement in work, play, or activities of daily living that are a part of socio-cultural context and are desired and/ or necessary to individual's well-being" (Lilja, 2000; Kielhofner, 2008). Participation in different areas of daily occupations is essential for all human existence (van Haitsma, Lawton, Kleban, Klapper et al., 1997) and for a positive influence on well-being. At the same time, for facilitating the participation of older people in daily life the social and physical environment, in exacting social attitudes and accessibility of support are mainly important aspects to take into consideration.

Home as an important environment for participation among older people

Home considered to be the origin for participation both out of the home and within the home (Haak, 2006), and is strongly linked to independence and participation in daily life (Haak, Fange, Iwarsson & Ivanoff, 2007).

For older people home should provide adequate, accessible, and personalized space to facilitate performing their daily routine and fulfilling their roles and responsibilities (Percival, 2002), which also considered as a familiar place, in a familiar location where they know others and feel in control of their lives (Davison, Kendig, Stephens, & Merrill, 1993; Bowling, 2005).

Home environment offers a range of opportunities to choose what to do. It also provides resources to sustain individuals' motivation and facilitate their participation in daily life. The relationship between humans and their environment is intimate and reciprocal impacting on what people do and how they do it (Albert, 2000). From this point of view, it is vital to understand the environmental impact on people's life and well-being as well as challenges in order to manage their life and involvement in the actual context of the life situations in which they live (WHO ICF-CY, 2001)

Social house, participation and elderly

The concept of "social housing" refers to housing owned by local authorities or registered social landlords such as housing associations aimed at supporting low-income, homeless people regulated by housing legislation (Balchin & Rhoden, 1995). For older people home has a great importance and particular meaning, which is more than being as a physical environment, it is an easy reach to many of his/her daily needs (Guse & Masesar, 1999). Therefore, it is important to focus on housing for older people and investigate their participation in daily occupations, which is considered to be vital for successful ageing (Wilcock, 2005).

Concluded literature review regarding the studied phenomenon revealed that limited research is performed regarding old people's experiences of participation in daily life who live in social house in general and particularly in Armenia. Taking into consideration the fact that older people spend much of their time in their home (Adams, 2008) and home has significant importance in older age, understanding the lived experiences of participation in daily life of older people in Armenia could be of great value while considering their environmental issues regarding their participation in daily life and wellbeing.

Therefore, this study focused on *exploring the lived experience of participation in daily occupations among older people living in social house in Armenia.*

METHODS

Phenomenological approach was used (Karlsson,1993) to explore the lived experience of participation in daily occupations among older people living in social house in Yerevan, Armenia which is concerned with the life world or human experience as it is lived. The focus was toward illuminating details and seemingly trivial aspects within experience that may be taken for granted in people's lives (Husserl, 1970), with an aim of creating meaning and achieving a sense of understanding (Wilson & Hutchinson, 1991).

The EPP method was used for data collection and analysis of the data from the interviews which was a qualitative, interpretative and descriptive method (Karlsson, 1993). The psychological perspective was replaced by an occupational perspective that was used while focusing on experience of participation in daily occupations among older people living in Social House.

Participants

Eight participants were included in the study from 66 to 80 years old, living in social house in Yerevan and information about the participants is presented in Table 1. Purposive sampling method (Depoy & Gitlin, 1998) was used for participants' selection by the following inclusion criteria:

- (1) Living at social house for a one year or more (≥ 1 year), this time has been considered as a time for person to adapt to the new environment to share their lived experience of participation in social house;
- (2) Not being diagnosed as dementia or chronic cognitive decline, in order to be able to communicate and respond to the questions of interviewer;
- (3) Being able to respond the questions and describe their experiences;
- (4) Agreed to participate in the study and share their experiences.

Table 1. Demographic data of participants

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
Age	87	84	70	72	75	78	78	72
Gender	Female	Female	Female	Female	Female	Female	Female	Male
Education	Higher	Higher	Secondary	Secondary	Higher	Secondary	Vocational	Higher
Marital status	Widow	Widow	Single	Single	Single	Single	Single	Divorced
Employment history	43	4	20	38	30	31	35	32
Time for living in Social House	4 years	4 years	4 years	1 year	3,5 year	3 years	2 years	1,5 year

Data collection

In-depth interviews with eight participants (both genders) were conducted living in a social house in Yerevan. The interview questions were open-ended based on interview guide which was designed and used during data collection (Kvale, 1991). The interviews addressed experience of participation in daily occupations and personal meanings of performed daily activities. All the interviews were tape-recorded, lasting about 45-60 minutes of each. Field notes have been used as a validation of the participants' narratives to help the researcher understand their described life-world experiences during the analysis.

Data analysis

The Empirical Phenomenological Perspective (EPP) method was used for analysing the data collected from the interviews (Karlsson, 1993) which is a qualitative, descriptive, and interpretive analysis that aims to describe the essence, structure, and characteristics of the studied phenomenon based on participants' life-world experiences. The psychological perspective has been replaced by an occupational perspective that focuses on older people's lived experiences of participation in daily life while living in social house.

The tape-recorded interviews of 8 participants (8 protocols) have been transcribed word for word and analysed using five steps of the EPP method. As the first step the data from all of the

interviews was read for understanding how older people experienced their participation in daily occupations. In the second step of the analysis the interviews have been reread for identifying all the meaning units in the interview and where there was a shift in the meanings. In the third step each meaning unit have been interpreted in light of all of data from the participant' and the phenomenon under the study. The focus has been on the meaning imbued by the participants. In the fourth step, the interpreted meaning units into a "situated structure of meaning" were synthesized and characteristics arranged to best describe the essence of the different characteristics and how they were related to each other, focusing on the meaning of performing or not performing varied daily occupations. As with the fifth step, this step also involved returning to the original data to ensure that relevant characteristics were not overlooked. To ensure credibility the researcher moved back and forth while interpretation and obtaining the data for each participant (Karlsson, 1993).

Trustworthiness

Trustworthiness of the analysis was examined with the "horizontal consistency of interpretations" (Karlsson, 1993) by making sure that interpretation of each interview was consistent with the meaning uncovered across all interviews, this means that parts were interpreted in the light of all data. Trustworthiness has been addressed via reflexive processes in the form of field notes (Depoy & Gitlin, 1998), and phenomenological reduction has been implemented by the researcher. Peer review and discussion with supervisor were done to increase the credibility of the findings.

Ethical considerations

The participants have been provided with written and verbal information about the study and their participation. Written consent was obtained from all participants. The participants were free to quit the project whenever they would like and decided to do. The study has been approved by the Mission Armenia NGO which was responsible organization for providing services for older people living in Social House.

FINDINGS

The phenomenon of participation in daily occupations among older people living in the social house compromised a meaning structure consisting of three main characteristics and sub-characteristics (Table 2).

The first characteristic, “*Change in place-change in life*” expressed the participants’ experience of being connected to former living place and did not feeling secure and safe in daily occupations. The second characteristic, “*being dependent as a doer- not free in making choices*” expressed the participants’ experience of difficulties and lacking in choices to do desired daily activities. The third characteristic, “*lack of environmental possibilities in daily living*” expressed that the participants limited in performing daily occupations by themselves, need support and felt isolated.

The characteristics and sub-characteristics of the phenomenon were described and exemplified using the participants’ quotes from interviews.

Table 2. three main characteristics and sub-characteristics

<p>(1). Change in place – change in life</p> <p style="padding-left: 40px;">1.1 Strong feeling of being home-lost – stay connected to former home</p> <p style="padding-left: 40px;">1.2 Important to feel safe and secure</p> <p>(2). Being dependent as doer – not free in making choices</p> <p style="padding-left: 40px;">2.1 Problems in sharing with others in daily living</p> <p style="padding-left: 40px;">2.2 Financial problems to do desired activities</p> <p>(3). Lack of environmental possibilities in daily living</p> <p style="padding-left: 40px;">3.1. Lack of supportive environment</p> <p style="padding-left: 40px;">3.2 Need to be get support</p> <p style="padding-left: 40px;">3.3 Lack of communication with others/isolation</p>

(1). Change in place – change in life

All the participants in the study described their experiences of changes of their living places, from where they used to live to the current place which was the social house, which had influenced on their life and wellbeing. They described how living in the social house and taking part in daily life were concerned with the feeling of “being home lost”. All the participants had experienced losing their former home, and have become homeless due to different life circumstances in their personal life. Their perceptions of being home-lost affected their current daily life and engagement in daily activities. Participants described how difficult it was to get used to and adapted to their new living conditions, for being able to take part in daily life, which most of them found it almost impossible.

They perceived their living place as social house as being different place from former one where they used to live, which was experienced as unfamiliar compared to former place where

they used to perceive it as their home. Although participants have been living in social house for a number of years, they still felt connected to their former home and daily life. Two of the participants however experienced their current living place as different which can be considered as a variation for this finding. These participants perceived their current place as being home, where they were able to keep doing what they were willing and wishing to do, and to feel safe and secure.

1.1 Strong feeling of being home-lost – stay connected to former home

The participants while compared their current daily life about doing different daily activities with the previous living place, they experienced difficulties in relation to starting their daily life in social house as a new place to live, to get familiar to new people they were living with.

Participants in this study described that they compared their previous home and daily activities with the current place. For many of the participants the feeling of losing their home was related to the feeling of losing everything in life, which affected their daily life and the way they could take part in different areas of daily life. As for example, one participant mentioned:

“I lost my home... I lost everything... this isn't my home, I know that after me this room will be given to the other person..., I just live the rest of my life here...”

Six participants described their former living place to be the only and main home, where they experienced to be belonged to. Former home was perceived as a place where they able to do daily activities as they wished and wanted to do. Participants described that they were belonged to their former home and experienced to be connected with that with having good feelings and memories, and feeling of being at home. The participants perceived living in the social house as living in a not-familiar place, where they had to face with difficulties in taking part in daily activities in the way they used to. They experienced living there as being unhappy, feeling physiological and emotional pain, and not being able to involve in daily life. One participant said:

“... I feel pain when remember my home and how I lived there... I don't know anybody; everything is strange and odd to me... I don't have anyone here... I lost my life when I lost my home...”

Among the participants there were two participants that perceived living in the social house as to be living at home, and they did not experience any changes in organizing daily life and daily activities to be difficult. Experiencing to live in different places (renting apartment, living in not

safe places) participants considered current one as a good possibility for maintaining daily life and involvement in daily occupations:

“... I’ve no complains, I do what I want and feel good here, this is like my home...”

They described their perception of living in social house and taking part in daily activities to be as “being at home”, being free and independent in doing daily activities: like feeling free to go out, visit relatives, spent time with other in social house, and being satisfied with their daily life.

1.2 Important to feel safe and secure

Participants described their experiences of feeling insecure and lacking of trust towards others in daily life in social house. This had influenced their perception of living with different people to be as living with strangers. Especially in older ages they experienced additional difficulties and limitations in participation in daily activities while feeling fear, insecure:

“I don’t know everybody here... I don’t trust them ... even when I have to go to the toilet; I have to lock my door...”

But there were three participants that described their perception as feeling comfortable in social house as they experienced to have all necessary environmental conditions for daily living. They experienced to feel safe and be protected in daily life in social house. They experienced their daily life in social house not being significantly different from other places. Participants described their relations with others to be good and trustful and they experienced to perform desired daily activities:

“I do here what I want to do... here it is safe, nobody can come and disturb us, and I needn’t afraid that one day I would be on street...”

(2) *Being dependent as a doer – not free in making choices*

Participants in the study experienced their living in current place as being limited in their choices and opportunities to take part in daily life. Living in social house and sharing their living place with another roommate were perceived as being restricted in to make choices in doing daily activities.

They described how they experienced to be dependent and not free in taking part in different daily activities. Only one participant experienced sharing her living place with her roommate as to be good when one’s need in support in daily life. This can be considered as a variation for this finding, but however she also described separate living to be important for feeling

good in daily life. They experienced lack of freedom and financial problems to do what they need and wish to do, being restricted to be engaged in daily life.

2.1 Problems in sharing with others in daily living

For all the participants sharing living environment (kitchen, toilet, and bathroom) with their neighbours was described as being not easy and pleasant, they experienced to be restricted and limited in their independence, feeling uncomfortable in doing daily activities which influenced their engagement in daily activities. For example, one participant said:

“I used to have clean environment. I clean all the time, but she (her neighbour) does not ... It is not easy to live with another person when you don’t know each other very well. We are from different countries. We have different habits... it is not easy...”

Participants experienced their daily life and involvement in daily activities to be compulsory in social house. They perceived sharing the place with others in daily life to be difficult and frustrated. They described how living with others was difficult for them, while they did not have the same attitude, and had different customs in daily life especially in old ages. One of the participants experienced herself to be frustrated - not free to do activities as she wished and used to do:

“I can’t do what I want to do; because that time may be she is doing other thing... it’s not easy to live with other person...I have to wait...to do something...”

As a variation of these findings one participant experienced sharing her living place in social house as a good opportunity to get support and help when she needed. However, she described how having the possibility to live separately be important in daily life to be able to do daily activities in a way that one wants:

“... I am in a good relationship with my roommate, and when I need help I ask her for help... but it’s better to live separate and not sharing the living place ...”

2.2 Financial problems to do desired activities

The participants in this study experienced having financial problems in organizing and participating in daily life in social house. Participants experienced living on a pension, without having supportive means for living to be very difficult. They described how it was limited their choices to be engaged in daily activities as they wished and want to:

“I had a good work... and lived very well... but now... everything is changed... I can’t allow myself to do what I want, I have to count everything... it is difficult to go out, to meet my friends, everything costs money...”

Participants experienced living with minimal income to limit their participation in daily life, since they had to think when and how much they can spend on food, on utilities and on other things. As for example one participant had mentioned:

“If I want to buy food... I have to decide what to buy and when... for example I like fruits ... but do not buy everything, I go to supermarket and see what is cheap... then I buy it. Meat is very expensive... but may be next month I would buy...”

(3) Lack of environmental possibilities in everyday living

The participants in this study found their engagement in daily activities to be connected with having appropriate environmental possibilities. Though, they experienced to take part in daily life as they were able but still considered to be living in not supportive and proper place. Almost all participants emphasized the importance of needing for support for being engaged in daily life. They experienced taking part in daily activities in social house to be stressful and lacking communication with others. The participants who had physical limitations and disease experienced the need to be getting in support while taking part in daily activities.

Also, living in social house for some of the participants were perceived as to be not supportive and experienced environmental and communication difficulties in daily life. They experienced daily life in social house as feeling of being in prison. And most of the participants experienced to be alone and isolated in daily life.

3.1 Lack of supportive environment

Participants described the need of good living conditions to be in connection for actively and more freely taking part in daily activities. They considered living in social house to be the best opportunity for mostly healthy ones, since they manage the daily life by themselves. Living there was perceived as living in not appropriate environmental conditions. They perceived themselves to be dependent and needed in getting help to do daily activities. For example, participants experienced limited possibilities to go out and do daily activities such as outdoor activities. They experienced not only physical limitations and mobility problems, but also environmental conditions to limit their possibilities for going out from social house:

“I have changed my living places many times... but here I don’t have enough space to move, to go out ...I live in 3-rd floor and walk with the walker, I can’t go up and down by the stairs ...”

All participants experienced living in social house to be compared with their past daily life and the activities they used to perform in their former place of living. Three participants described their daily living in social house to be much different from the way they used to live in their “own” home. They perceived to be limited in taking part in daily life, and they were needed to be adapted and re-change their daily life in order to confront with the structural and environmental factors in social house. They described their participation in current living place to be not comfortable and lacking opportunities for being engaged in desired daily activities: *“... here there are no handles that I could hold on and go out... also the elevator does not work in the building... If I need something to buy from the shop every time I have to ask others to do that...”*

3.2 Need to be get support

Four participants with health problems experienced getting daily help and support from others (other residents of SH, relatives) in order to do daily activities, like taking bath, doing laundry, shopping, cleaning the windows and etc. They experienced getting help and support from others was essential in their daily life:

“I can't take bath and do laundry alone... my brother's daughter came every week and help me ...”

Three participants experienced limitations in daily life for going out and doing outdoor activities (go for shopping, go for walking, visiting relatives) since they experienced health problems and environmental conditions were not supportive. They described how difficult and dangerous it could be for them to go out, as they felt insecure and afraid of falling. They experienced to get “others” help and assistance any time they need to go out:

“My roommate is sick and can't go out and do shopping. I do it for both of us... and not only for her... when I go out I usually ask if people need something to buy... it's not difficult for me to help the others... if I can do that, I am willing to be useful...”

3.3 Lack of communication with others/isolation

Participants experienced difficulties to communicate with residents in social house to be connected with being from the other place of origin. They experienced having language barriers in communications even though everyone were ethnic Armenians and understood Russian language (used to be common language in Armenia). However, they described how it was

challenging communication with people who were from different place of origin. Almost all participants experienced time spending (taking part in leisure activities) in social house to be doing mostly nothing. Many of the participants had lack of opportunities to spend time with people whom they would like to, or to be engaged in their desired daily activities. One participant experienced her daily life in social house to be living in “*prison*”. She experienced lack of possibilities to go out and communication with others, since she experienced lack of trust to others and could not find any one around to communicate with:

“The whole day I am alone... I go out, walk in corridor from one corner to another... that is it... what can I do here? There is nobody that I spend my time here with.... Also I can’t go out... it feels that I am in prison...”

DISCUSSION

The following study aimed at advancing the knowledge of participation in daily occupations of older people while living in social house. The study identified three main characteristics: ***Change in place – change in life; being dependent as doer – not free in making choices; Lack of environmental possibilities in daily living***, which described the life world of the participants and the meaning of their participation in daily occupations in the context of social house.

The current study supports the knowledge that engagement in daily occupations is vital for human-beings and, therefore, occupations have fundamental role to maintain physical and psychological health (Wilcock, 1998), wellbeing and active aging (WHO ICF-CY, 20011). At the same time home is the centre of all activities for older people (Rawles, 1978) which can facilitate or hinder participation and engagement in daily occupations, and at the same impact on their quality of life (Bowling, Bannister, Sutton, Evans et al.,2002).

The findings demonstrated how older people’s participation in daily occupations was changed and restricted after living in Social House. The sense of “loosing home”, was considered the main reason for living in Social House, changed the life and engagement in daily occupations of older people, remaining them to be connected to their former “home” and felt limited in daily participation. Since, older people spend much of their time in their home and home particularly important for being active in daily life, which is strongly associated with the perception of being belonged to the place of living (Adams, 2008). Previous studies (Gillsjo, 2011; Iwarsson & Wilson,

2006; Lilja, 2000) also showed that participation in daily occupations strongly interconnected with the perception of living place and belongingness to that place, at the same time physical environment influenced on people's ability to take part and interact with others. Literature has stressed that participation has many other aspects and can be considered as a complex concept (Haggstorm & lund, 2008), which is combined with the subjective perception of the participation including environmental factors (Forhan, Law & Vrikljan, 2010).

Having "*safe environment*" and "*feeling secure*" was identified by the participants to be *the* most important aspect in defining their participation in daily occupations and social interactions. With this finding it was described how the changes of living place influenced on the perception of "*feeling of being at home – feeling of being secure*", which could be considered as an important concern for people's participation and wellbeing (Kendig, Helme, Teshuva, Osborne et al., 1996). For many older people "*home*" and "*meaning of home*" not only described the physical structure of their living place, but also the psychological attachment to the place where they could "*feel safe*", and take part in daily life (Douglas, 1991). Perception of feeling home lost restricted participants' recognition of current living place to be their home, a place where they can feel safe and secure and this kind of perception of living environment limited their participation in daily occupations and remained them to be inactive and unprotected Therefore, it was approved that participation in daily occupations entitled with the feeling and attachment of the current place of living (Gattuso, 1996), which give an opportunity to continue daily routine and considered to be an important aspect for quality of life and successful aging (Hubbard, Tester, Downs, 2003; Zunzunegui, Alvarado, Ser & Otero, 2003; MacDonald, Craig, Warner, 1985).

In this study "*being dependent as doer – not free in making choices*" characterized participants' limitations in making choices in daily participation causing to feel unhappy and dependent. From this point of view having choices give a sense of control in continuity by choosing, shaping and orchestrating daily occupations (Clark & Jackson, 1989). At the same time, having choices to do activities strongly emphasized the importance of autonomy and self-determination, which were perceived as a need to have a control of own life (Hammel, 2003b). It was approved that people who have leave their home and families and move to live into another place (nursing home, social house), experienced lots of grief and loss, which were expressed in their words, actions and emotions (Harker, 1997). They very seldom have any choice to be return to the "*normal*" life and be free and have freedom of choices in daily occupations.

Findings indicated that problem in sharing the living place with others limited older people's choices as a doer - lacking of choices to do activities *“when”* they want and *“how”* they want. Being dependent and not free as a doer demonstrated the subjective understanding of the meaning being able to take part and having control in daily occupations. While engagement in occupation is self-initiated and has a motive for doing and means taking control, being given the opportunity to express ourselves, structure our existence, find meaning in our life and adapt to life's challenges (Christiansen & Townsend, 2004).

The findings of this study had identified different level of participation in daily occupations. The most important aspect was *“need to be get support”* in daily life, which was relatively higher among older people who had different diseases and disabilities. Lack of supportive environment (physical and social), influenced on their participation and autonomy in social house. While independence and autonomy is valued among older people and independence in daily occupation have been identified as an important aspect of health and wellbeing (Becker & Kaufman, 1995).

Several studies showed that environmental barriers such as physical access and safety, social & societal issues - support of family and close friends, support of professional staff/caregivers, impacted on people's participation in daily occupations (Gitlin, Mann, Machiko & Marcus, 2001; Arvidsson, Granlund, Tyberg, 2008). In the environmental factors, social support was described as support that can come from a specific person, a specific group or the social network (Stanley & Cheek, 2003).

When daily life is generally taken for granted and any problems connected with participation in daily occupation have been explored, living in not supportive environment has been identified as one of the reasons for being restricted from daily occupations (Rioux, 2005). Having lack of possibilities to be engaged in desired activities by him/herself, influenced on people's participation and health. From this perspective, participation and health can be viewed in a holistic way, including taking part in everyday life through engagement in daily occupations (Porn, 1993).

However, the current study found that participation in daily occupations for older people living in social house was embodied with the sense of living with others and at the same time feeling alone. Living with “others” for older people intended not to share the same attitude, values, having language barriers and accordingly having limited communication with others, stay alone,

being isolated from others. Moreover, it is known that in residential places much of the residents' time was spent in social and emotional isolation (McKee, Harrison & Lee, 1999). In previous studies it has been identified that in daily living especially in institutional settings, personal, cultural and structural facets served to frame the social interaction of people (Hubbard, Tester & Downs, 2003). The importance of social participation in older age influence on the health and quality of life has been identified, including life satisfaction and emotional, subjective and psychological wellbeing (Cutrona, Russell & Rose, 1986; Traupmann, Eckels & Hatfield, 1992; Holmen, Ericsson & Winbald, 1994; Rubio, Lazaro & Sanchez-Sanchez, 2009).

Feeling alone and being isolated were connected also with changes of living place, losing social connections with familiar people and limited possibilities to regain previous life roles. These were related to their participation in daily occupations and caused limitation in social interaction among older people, serving as bases for spending most of the time while doing nothing. Studies had approved that that institutional care settings and environmental factors can shorten levels of social interaction and social activity (MacDonald, Craig & Warner, 1985; Bowie & Mountain, 1993; Mattiasson & Andersson, 1997).

Summarizing the findings of the current study, from the perspective of different levels of older people's participation and its connection to quality of life it was considered to be important having good social relationships and support, feeling safe and secure, having access and supportive environment to be engaged in daily occupation as well as having enough money to meet basic needs and participate in daily life.

CONCLUSION

This phenomenological study identified the meaning structure of participation in daily occupations among older people living in social house in Armenia. The meaning structure comprised of three main characteristics: *Change in place – change in life; being dependent as doer – not free in making choices; Lack of environmental possibilities in daily living.*

The findings of the study highlighted the importance of feeling of being at “home” and “belongingness” to facilitate the humans' participation in daily occupations. The lived experience of older people in participation in daily occupations was characterized with their subjective perception of the current place of living, and changes that they experienced during their life. They needed getting support in daily occupations, had limited possibilities to make their choices and

maintain autonomy in daily occupations, and did not feel safe and protected. Moreover, they were limited in their social participation and interactions with others, felt alone and isolated.

In conclusion, the results of this study would stress the need for understanding personal perceptions of living place and environmental conditions that can facilitate or challenge older people's participation in daily occupations, while considering intervention plan and offering appropriate strategies to ensure better participation in daily occupations in current living place.

LIMITATIONS OF THE STUDY

Several limitations could be encountered in this study, which can limit the diversity of the findings and consistency of the identified meaning experiences. As main aim of the phenomenological research is to discover the meaning structure of the participants' experienced life-world of the studied phenomena, accordingly in this study- experience of participation in daily occupations is broad and multidimensional. Accordingly, the findings also could be considered to be broad, lack of specifying and deepening the understanding of participation in different areas of occupational performance: self-care, leisure, productive activities, occupational choices and roles.

The other limitation of the study was that only the experience of eight participants (7 women, one man), were presented, and gender composition was not equal in current study, at the same time all participants were from the same social house, since that was the only one in capital city of Armenia. Also conduction observation of the participation in daily occupations could provide detailed information about the phenomena and increase the credibility of the data. Consequently, further research is required to enrich the findings that identifies from this current study.

IMPLICATION TO OCCUPATIONAL SCIENCE AND OCCUPATIONAL THERAPY

The results of this study highlighted characteristics and sub-characteristics of participation to be important in old ages while living "not at home", which considered being important for facilitating older people's participation in daily occupations.

A theoretical framework can be developed to assist occupational therapists working with older people living in social house, and this kind of knowledge can also advance the understanding of participation and engagement in daily occupations from the perspective of health and wellbeing in older age. Individual experience of participation in daily occupations is essential to take into

account when planning intervention and developing strategies for occupational adaptation in a new environment. Also the link between the social environment and the physical environment of older people are important while consideration the needs of this population in participation daily occupations.

REFERENCE LIST

1. Adams, T. (2008). Nursing people with dementia and their family members, toward the whole system approach. *Dementia care nursing promoting well-being in people with dementia and their families*. Basingstoke: Palgrave Macmillan.
2. Albert, S.M. (2000). The dependent elderly, home health care and strategies of household adaptation. In J.F. Gubrium & J.A. Holstein (Eds.), *Aging and everyday life* (pp. 375-385). Oxford: Blackwell Publishers.
3. Arvidsson, P., Granlund, M., & Tyberg, M. (2008). Factors Related to Self-Rated Participation in Adolescents and Adults with Mild Intellectual Disability – A systematic Literature Review. *Journal of Applied research in Intellectual disabilities*. Vol 21:277-291.
4. Balchin, P, & Rhoden, M. (2002). *Housing policy: an introduction*. 4th edition, London.
5. Becker, G., & Kaufman, S. (1995). Managing an uncertain illness trajectory in old age: Patients' and physicians' views of stroke. *Medical Anthropology Quarterly*, 9, 165-187.
6. Bowie, P., & Mountain, G. (1993). Using direct observation to record the behaviour of long-stay patients with dementia. *International Journal of Geriatric Psychiatry*, 8, 857–64.
7. Bowling, A., Bannister, D., Sutton, S., Evans, O., & Windsor, J. (2002). A multidimensional model of Quality of Life in older age. *Ageing and Mental Health*, 6, 355–71.
8. Bowling, A. (2005). *Ageing well: quality of life in old age*. Milton Keynes, Open University Press.
9. Brundtland, G. H. (1999). *Active Ageing, A Policy Framework*, World Health Organization.
10. Christiansen, C.H., & Townsend, E.A. (2004). An introduction to occupation. In C.H. Christiansen & E.A. Townsend (Eds.), *Introduction to occupation: The art and science of living*. (pp.1-28).

11. Clark, F. A., & Jackson, J. (1989). The application of the occupational science negative heuristic in the treatment of persons with Human Immunodeficiency Infection, *Occupational Therapy in Health Care*, 6, 69-91.
12. Cutrona, C., Russell, D., & Rose, J. (1986). Social support and adaptation to stress by the elderly. *Journal of Psychology and Aging*, 1, 1, 47-54.
13. Davison, B., Kendig, H., Stephens, F., & Merrill V. (1993). *It's my place: older people talk about their homes*. Australian Government Publishing Service, Canberra.
14. DePoy, E., & Gitlin, L. N. (1998). *Introduction to research: Understanding and applying multiple strategies* (2nd ed.). London: Mosby.
15. Douglas, M. (1991). The Idea of Home: A Kind of Space. *Social Research*, Vol. 58 (1), pp 287-307.
16. Eales, J., Keating, N., & Damsma, A. (2001). Seniors' experiences of client centred residential care. *Aging and Society*.21:279-296.
17. Forhan, M.A., Law, M.C., & Vrikljan B. H. (2010). The experience of participation in everyday occupations for adults with obesity. *Can. J. OT*; 77:210-8.
18. Gattuso, S. (1996). The Meaning of Home for Older Women in Rural Australia. *Australian Journal on Ageng* Vol 15. No 4. pp172-176.
19. Gillsjö, C. (2011). A concept analysis of home and its meaning in the lives of three older adults. *Int J Older People Nurs* 2011, 6(1): 4-12.
20. Gitlin, L.N., Mann, W., Machiko, T., & Marcus, S.M. (2001). Factors associated with home environmental problems among community living older people. *Disability and rehabilitation*, 23: 777-787.
21. Guse, L.W., & Masesar, M.A. (1999). Quality of life and successful aging in long-term care: Perceptions of residents. *Issues in Mental health nursing* 20 (6): 527-539.
22. Haak, M., Dahlin-Ivanoff S., Fange A., Sixsmith J., & Iwarsson S. (2007). Home as the locus and origin for participation: experiences among very old Swedish people. *OTJR: Occupation, Participation and Health*, 27: 95-103.
23. Haak, M., Fange, A., Iwarsson, S., & Ivanoff, S. D. (2007). Home as a signification of independence and autonomy: experiences among very old Swedish people. *Scandinavian Journal of Occupational Therapy*, 14: 16-24.

24. Haak, M. (2006). Participation and independence in old age: Aspects of home and neighbourhood environments. Doctoral dissertation. Lund: Department of Health Sciences, Division of Occupational Therapy and Gerontology, Lund University, Sweden.
25. Haggstorm, A., & Lund, M.L. (2008). The complexity of participation in daily life: a qualitative study of the experiences of person with acquired brain injury. *J. Rehabil. Med;* 40: 89-95.
26. Hammell, K.W. (2003b). Changing institutional environments to enable occupation among people with severe physical impairments. Using environments to enable occupational performance (pp.35-53).
27. Harker, J. (1997). Helping me to coping with the Nursing home decision. Copyright © by Jean Harker
28. Holmen, K., Ericsson, K., & Winbald, B. (1994). Loneliness and living conditions of the oldest old. *Scandinavian Journal of Social Medicine*, 22, 1, 15–19.
29. Zunzunegui, Alvarado, Ser, & Otero. (2003). Aging Well Through Long-Standing Social Occupation: A Closer Look at Social Participation and Quality of Life in a Sample of Community-Dwelling Older Adults.
30. Hubbard, G. Tester, S., & Downs, M. G. (2003). Meaningful social interactions between older people in institutional care settings. *Ageing & Society* 23, 99–114.
31. Husserl, E. (Ed.). (1970). *Phenomenological psychology*. The Hague, the Netherlands: Martin Nijhoff.
32. Husserl, E. (Ed.). (1970). *The crisis of European sciences and transcendental phenomenology*. Evanstone, IL: Northwestern University Press.
33. Iwarsson, S., & Wilson, G. (2006). Environmental barriers, functional limitations and housing satisfaction among older people in Sweden: A Longitudinal perspective on housing accessibility. *Technology and disability*, 18, 57-66.
34. Karlsson, G. (1993). *Psychological qualitative research from a phenomenological perspective*. Stockholm: Almqvist & Wiksell International.
35. Kendig, H.L., Helme, R., Teshuva, K., Osborne, D., Flicker, L., & Browning, C. (1996). *Health Status of Older People Project: Preliminary Findings From a Survey Of the Health and Lifestyles of Older Australians*. Carlton South. Victorian Health Promotion Foundation.

36. Kielhofner, G. (2008). *Model of human occupation: Theory and application* (4th ed.). Baltimore: Lippincott, Williams & Wilkins, 86-88.
37. Kvale, S. (1996). *Interviews: An introduction to qualitative research interviewing*. London: Sage.
38. Law, M. (2002). Participation in the occupations of everyday life. *American Journal of Occupational therapy*, 56(6): 640-649.
39. Lilja, M. (2000). *Elderly disabled people in the home setting. Aspects of activities in daily life*. Karolinska Institute, Stockholm.
40. MacDonald, A., Craig, T., & Warner, L. (1985). The development of a short observation method for the study of the activity and contacts of old people in residential settings. *Psychological Medicine*, 15, 167–72.
41. Maltby, T. (2004). *Ageing and the transition to retirement: a comparative analysis of European welfare states*. Aldershot: Ashgate.
42. Mattiasson, A., & Andersson, L. (1997). Quality of nursing home care assessed by competent nursing home patients. *Journal of Advanced Nursing*, 26, 1117–24.
43. McKee, K., Harrison, G., & Lee, K. (1999). Activity, friendships and wellbeing in residential settings for older people. *Aging and Mental Health*, 3, 2, 143–52. McKinley, H. and Drew, B. 1977. The nursing home: death of sexual expression. *Health and Social Work*, 2, 180–7.
44. Percival, J. (2002). Domestic spaces: Uses and meanings in the daily life of older people. *Ageing and Society*. 22(6);729.
45. Pörn, I. (1993). Health and adaptedness. *Theoretical Medicine*, 14, 295-303.
46. Rawles, G.D. (1978). *Prisoners of space*. Boulder, Colorado: Westview Press.
47. Rioux, L. (2005). The well-being of aging people living in their own homes. *Journal of Environmental Psychology*, 25, 231-243.
48. Rubio, E, Lázaro, A., & Sánchez-Sánchez, A. (2009). Social participation and independence in activities of daily living: a cross sectional study. *BMC Geriatrics*, BioMed Central Ltd.
49. SEU. (2006) *A Sure Start to Later Life: Ending Inequalities for Older People*, London: Social Exclusion Unit.

50. Stanley, M., & Cheek, J. (2003). Well-being and older people: A review of the literature. *Canadian Journal of Occupational Therapy*, 70(1), 51-59.
51. Traupmann, J., Eckels, E., & Hatfield, E. (1992). Intimacy in older women's lives. *The Gerontologist*, 22, 6, 493-8.
52. United Nation Population Division, *World Population Prospects, 2010, Revision*
53. van Haitsma, K., Lawton, P., Kleban, M., Klapper, J., & Corn, J. (1997). Methodological aspects of the study of behavior in elders with dementing illness. *Alzheimer Disease and Associated Disorders*, 11, 4, 228-38.
54. Wilcock, A. (2005). Occupational science: bridging occupation and health. *Canadian Journal of Occupational Therapy*, 72(1),5-12.
55. Wilcock, A. (1998). *An occupational perspective of health*. Thorofare: Slack Inc.
56. Wilson, H., & Hutchinson, S. (1991). Heideggerian hermeneutics and grounded theory. *Qualitative Health Research*.
57. World Health Organization. (2001). *The International Classification of Functioning, Disability and Health – ICF*. 14-15.
58. World Health Organization. (2012). *Aging and life course*.
59. <http://www.unfpa.am/en/aging>