

# Teaching and Learning of Deaf Students in Ordinary Vocational Education Setting

The Georgian Case

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# Abstract

The study aims to understand the teaching and learning process of deaf students in an ordinary vocational education setting, which is a new initiative in the Georgian context.

The Cultural-Historical Activity Theory taking roots from the cultural-historical traditions makes the conceptual framework of the study. The process of education is conceptualized as an interaction of two related activity systems - teaching and learning. The main focus of the study is the means of mediation - communication and teaching strategies, as well as the challenges, resources and possibilities of the teaching-learning practice.

A qualitative descriptive case-study design was elaborated to guide the study. Three deaf learners of the vocational education and their vocational education teachers were selected based on purposeful sampling. A qualitative semi-structured interview was the main method of the data collection. The findings are based on the thematic analysis and interpreted within the conceptual framework of the study.

The study has revealed that the teachers and learners give preference to direct communication in the course of personal interaction, while sign-language mediation is the main means of delivering theoretical content. The sign language interpreting service appears as a vital resource of deaf vocational education. However, the study has revealed the need to enhance a sign language-mediated as well as direct teacher-learner communication for the educational benefit of deaf students. Based on the findings, the teachers try to use adapted to deaf learners' needs and abilities teaching strategies. Demonstration, modeling and practicing appear as the most beneficial strategies. A good match has been revealed between the strategies perceived as effective by both the teachers and the deaf learners. The practical part of the programs create rather supportive conditions for teaching and learning, allowing to use the means most suitable to deaf learners. Peer tutoring has appeared feasible resource of the teaching and learning. Conveying theoretical content and explaining the subject-related terms to deaf learners as well as written exams have appeared as the one of the biggest challenges of teaching and learning. Based on the study, the teachers are sensitive to the deaf learners' needs, however, there are still some underestimated needs. Further, not all resource existing in the vocational setting is applied in practice. Overall, the study has revealed that the current practice of deaf vocational education carries the tangible possibilities for its future development.

# Dedication

To all deaf learners of Georgia with the trust that in the near future the high quality vocational educational will be one of the postsecondary educational options for deaf individuals but not the only one



# Acknowledgment

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# Acronyms

**CHAT** – Cultural Historical Activity Theory

**EFA** – Education for All

**GSL** – Georgian Sign Language

**IEP** – Individual Education Plan

**MoES**- Ministry of Education and Science of Georgia

**NSD** – Norwegian Social Science Data Services

**UNESCO** – United Nations Educational, Scientific and Cultural Organization

**ZPD** – Zone of Proximal Development







# 1 Introduction to the Study

## 1.1 General Introduction

*“One child, one teacher, one book and one pen can change the world”* stated Malala Yousafzai (2013) the youngest Nobel Prize laureate expressing her trust in the power of education. I myself strongly believe that education is a foundation of independent person and acts as a protection against vulnerability, marginalization, and poverty. Another thing I am certain of is that every human deserves the opportunity for self-realization and that every society has a potential to provide this opportunity to its members.

Currently, Georgia within a reformative initiative towards inclusive vocational education makes the first endeavor to create vocational education opportunities for deaf individuals. The presented study is a response to this innovative initiative. The question of how to provide deaf students with education responding to their unique learning needs makes an actual concern worldwide and Georgia is not an exception. The current study does not have an ambition to give an exact answer to this question but generates the questions and searches for answers. It attempts to expand the understanding of how the teaching and learning of deaf students is practiced in an ordinary vocational educational setting in Georgia based on its key participants’ experiences and perspectives.

The chapter provides the background information for the study from three - global, local and personal - perspectives (1.2); presents the statement of the problem and rationale for the study (1.3) and offers key concepts of the study (1.4).

## 1.2 Background of the Study

### 1.2.1 Global Perspective - Towards Education for All

Education is an undeniable right of every human that nowadays is explicitly stated in numerous international documents and local legislative papers of many countries; however, this right has not always been declared for all, especially for the individuals with special needs. A visible movement towards constructing more just and inclusive societies started from the middle of the 20th century, uniting different nations around these concepts. The right

to education was acknowledged as the universal human right and found its legal place in the “Declaration of Humans Rights” (1948), followed by other international documents and agreements (Kokkala, 2006, p. 5).

Ultimately, the ‘right to education’ as a notion has become more extensive. Inclusion of individuals with special needs in education can be considered in a broader context of education for all (EFA) that currently is a global millennium goal. Inclusive education is proposed to be the main principle for the realization of universal human right to education (Eklindh & Brule-Balescut, 2006, p. 32). According to Richler (2004, as cited in Kokkala, 2006), *“rights, research and resources all point to inclusive education as the only way to guarantee that children and youth with disabilities receive a quality education, and thus that EFA targets are met”* (p.10). Being a quality indicator, inclusive education is based on the recognition of and response to the diverse needs of learners, provision of quality education for all through appropriate curricula, individually adapted education and teaching strategies, necessary organizational arrangements and resources (United Nations Educational, Scientific and Cultural Organization, UNESCO, 1994).

Nowadays many countries have incorporated international declarations and conventions supporting inclusive education into the national laws; however, the change in legislation is not the only factor enabling inclusion. A dilemma is how to make education accessible and individually suitable for the whole diversity of learners in a practical - classroom level as *“moving towards inclusion is not simply about conceptual changes, but rather about process that couple theoretical changes with legislative and practical changes at the classroom level”* (Eklindh & Brule-Balescut, 2006, p. 24).

Currently, different counties are in different phases towards inclusion and Georgia has its own path in this journey.

## **1.2.2 Local Perspective - Georgia’s Way towards Inclusive Education**

### **Transformations in Georgian Educational System**

Current educational practice of Georgia is a clear illustration of an attempt to liberate from the rudiments of the preceding authoritarian teacher-centered pedagogical principles and to move to more liberal, learner-centered pedagogical values and standards of the 21<sup>st</sup> century.

From 1921, during 70 years of the Soviet rule, the Georgian educational system was under the influence of the Soviet ideology exhibiting low tolerance towards diversity and individual differences. “Sameness” was perceived as the main principle of the equality in all the areas of life, including education. Every student was required to fit general educational requirements and be able to catch up with a curriculum. The individuals with visible differences were placed in special institutions and those with mild disabilities accepted in regular schools were automatically moved from grade to grade until the end of a compulsory 9-year education without gaining any educational benefit. Segregated vocational institutions and working places with limited vocational directions were run for persons with sensory impairments.

After gaining independence in 1991 and taking a new political course directed towards becoming a member of the global democratic society, Georgia started incorporating international standards and preparing a legal foundation for the local practical changes. From that period, the Georgian government had accepted different international declarations and conventions. The first significant document was the Universal Declaration of Human Rights (1948) ratified in 1991 and the latest “Convention on the Rights of Persons with Disabilities” (UN, 2006) ratified in 2014. After taking the political responsibility for dissemination of democratic principles in all areas of life, the implementation of inclusive principles in education has become an essential scope of the Georgian government.

The changes towards inclusive education on the practical level became more visible when in 2006 the Ministry of Education and Science of Georgia (MoES) supported by the Ministry of Education and Research of Norway started the implementation of pilot project in regular schools of the capital city and from 2009 spread the same initiative in all the regions of the country. The Salamanca Statement and Framework for Action (UNESCO, 1994) became the one of the main principle guidelines for the Georgian policy makers in the field of inclusive and special needs education. Currently, the special needs education is under the responsibility of MoES and has a relatively firm legislative, financial and practical support. Even a limited experience generated in Georgia regarding inclusive education proved an importance to expand this practice and increase the accessibility to vocational education for the learners with special needs through reforming the vocational educational system.

## **Introducing Inclusive Principles in Vocational Education in Georgia**

The access to vocational education and acquisition of competences responding to the demands of the contemporary labor market is vital for individuals with special needs. Salamanca Statement and Framework for Action (UNESCO, 1994) defines vocational preparation of students with special needs as one of the priority areas. Vocational education provides students with the skills responding to the demands of adult life, prepares for the independent social functioning and makes them the contributing members of the communities (para 56).

Currently, formal vocational education governed by the MoES, represents the only option in the country for the acquisition of vocational competences. Vocational education takes place in the educational institutions (34 governmental and 66 private colleges) independent from schools, after completion of a compulsory 9-year education and passing special tests.

To ensure the access to vocational education for individuals with special needs, in 2013 the MoES, once again supported by the Ministry of Education and Research of Norway, launched a 3-year pilot project “Introduction of Inclusive Education in Vocational Education and Training System in Georgia” (2013-2016). Six vocational colleges from the capital city and regions were selected as the targets of the project; however, the number of vocational institutions accepting the students with special needs has gradually increased and according to the MoES official data, by autumn 2014, 109 students with special needs were involved in 16 vocational institutions at 32 different vocational programs. Within a new initiative, a special mechanism of accepting the applicants with special educational needs was developed as individually adapted testing (Order # 152/N; 27.09.2013) and 10% quota for each vocational program and 100% of the governmental financial support (Georgian Government Resolution # 244; 19.09.2013). The regulations supporting inclusive vocational education were elaborated to be included in the “Georgian Law on Vocational Education” (2007), which is the main document regulating the provision of vocational education in Georgia and which currently is under the revision.

To ensure the quality of vocation education for the students with special needs, MoES provides the financial support to governmental vocational institutions to hire an inclusive education specialist, an individual assistant and in case of having a deaf student - a sign language interpreter. A training package of inclusive education has been developed for the

staff of the colleges; the adaptation of the physical environment has started in the target vocational institutions.

Within the diversity of learners with special education needs to be included in vocational education, individuals with hearing impairment, including deaf, represent one of the main target population. Based on official data of MoES, the rate of applicants with hearing impairment is second after the individuals with intellectual impairments, and gradually increases via each new enrollment. If in 2013 their number was 12, by autumn 2014 their number increased to 21. Therefore, deaf individuals gain the real possibility to keep on formal education after graduating from school, to acquire vocational competences in an inclusive learning environment, and to be prepared for the future inclusive employment.

### **1.2.3 Personal Perspective - Motivation of the Study**

To me deaf individuals in Georgia represent one of the vulnerable groups with a high learning and working potential but with the limited opportunities for its realization. Academic achievements and literacy level of deaf school graduates are very low that obviously restricts their further educational opportunities. During the last decades, no deaf individual had entered high education and there were only few cases of deaf been educated in vocational colleges. Consequently, employment possibilities of deaf individuals are also restricted in the country. Several years ago, I had a professional opportunity to interact with deaf learners at the special schools for deaf and to observe the educational process. This experience showed me how deaf learners and their teachers struggle with teaching and learning. Besides, the low learning motivation of pupils after grades 6-7 was critical. “I don’t think I will find a job, what is the reason to learn?!” was the common statement made by the students. The necessity to expand the postsecondary education and employment opportunity for deaf learners, as well as to make the teaching-learning process itself more beneficial was clear.

Yet, deaf education is an unclosed field in the country. However, this very fact raise a scientific curiosity in me and motivate to go deeper in the field. Thus, when I saw the possibility to connect my master’s study with deaf inclusive vocational education, which is an innovative practice for the country, I could not stay apart.

## **1.3 Research Problem and Rational for the Study**

### **1.3.1 Statement of the Problem**

Even though, the access to vocational colleges for deaf individuals is ensured in nowadays' Georgia, this does not automatically guarantee the full access to learning process itself. The combination of unique learning needs of deaf students and the factors external to them can create certain challenges to the teaching-learning process in an ordinary vocational educational environment. As revealed by the survey on inclusive education indicators in Georgia (Tchintcharauli, Javakhishvili, 2013), the teaching process in vocational colleges is less adapted to the requirements of the students with special needs (p. 72). The same was stated in the annual report (2013) of the project "Introduction of Inclusive Education in Vocational Education and Training System in Georgia" (Zakareishvili, Bagrationi-Gruzinski, & Barkaia, p. 38). This issue supposed to be more tangible in regard to deaf students, whose education is still a challenge internationally and especially in Georgia, which does not have any experience in it.

There is no readily available model of deaf individuals' inclusive vocational education, which would be applicable in the Georgian context. According to the managerial staff of the pilot project, the provision of successful education for deaf learners represents one of the priorities and simultaneously the concerns of the MoES.

### **1.3.2 Rational for the Study**

Each new initiative and any current practice has a potential to be enhanced and improved but firstly it requires the understanding and reflection. Depicting "what is going on" and "how it is going on" and describing the current teaching and learning practice of deaf vocational education will be helpful to understand what the challenges and resources of the current practice are, what works the best for its key participants and what possibilities it carries. The Salamanca Statement proposes the need of research and the distribution of examples of good practices; besides, it proposes the integration of the special needs education in the research and development programs with the focus on the innovative teaching-learning strategies (UNESCO, 1994, para 33, 39).

The results of the study assumed to be useful for the vocational teachers who will be a part of deaf vocational education in the near future, the principals of the vocational settings, and the managerial staff of the pilot project and could stimulate necessary changes. Provision of

vocational education from the very beginning will be beneficial both, for deaf learners involved in vocational education and for them who are at the general educational level and lack a motivation to learn and to further continue their education. The deaf students of vocational education can act as the role models for others.

Further, the presented study will be the first attempt to study the teaching and learning process of the deaf, particularly in vocational education settings in Georgia, and to contribute to the evidence-based knowledge. Furthermore, the study will highlight the most important aspects to be studied in the future.

### **1.3.3 Research Aim and Questions**

The aim of this study is to understand the teaching and learning process of deaf students in an ordinary vocational education setting in Georgia based on its main actors' - deaf learners and their vocational education teachers - experiences and perspectives.

**The main research question is:** How teaching and learning of deaf vocational students is practiced in regular vocational education setting in Georgia?

To get the overall understanding of the phenomenon under the interest, the study set the following sub-questions:

1. What are the deaf learners and their vocational education teachers' objectives of teaching and learning?
2. How is teaching and learning mediated: what communication and teaching strategies are applied and which of them are considered most beneficial by deaf learners and their vocational education teachers?
3. What are the challenges and resources of the teaching - learning process?
4. What are the outcomes of teaching and learning from the perspective of deaf learners and their vocational education teachers?
5. What are deaf learners and their vocational education teachers' perspectives on how the exiting practice can be enhanced in the future?

## 1.4 Definition of Main Concepts of the Study

**Key terms:** Deaf learner, teaching and learning, mediation, communication, teaching strategies, inclusion, vocational education.

**Deaf Learner** – From a medical perspective, the definition of deafness is mainly based on the degree of hearing loss and most audiologists attribute it to the profound range of hearing loss (hearing sounds only above 90 dB) (Batshow, 1997, p. 247). From the socio-cultural perspective, deaf individuals are mostly considered as part of the linguistic and cultural minority, who shares own language (sign language), culture, and traditions different from the hearing majority (Marschark, & Hauser, 2011, p.4). Individuals with Disabilities Education Act (2004) defines “deafness” as a hearing impairment severe enough to restrict individual’s opportunity to process linguistic information through hearing sense, even when the amplifications or/and hearing aids are used (Kirk, Gallagher, Coleman, & Anastasiow, 2012, p. 296). Close to the last definition within the study, deaf learner refers to the one, who regardless the degree of hearing loss is not able to use hearing sense functionally for the learning purposes and based on sign language as on the main communication mode.

**Teaching and Learning** –Teaching and learning is considered as a two-sided interactional process, which mainly takes place at the classroom level. The aim of this interactional process is to achieve a common understanding and to transform the objective knowledge (defined by the curriculum) into the subjective knowledge of the learner (Vygotsky, 1978, Rogoff, 1990).

**Mediation** – Within the study mediation is considered as an active, intentional act critical for teaching and learning, consisting of the direct and indirect human intervention, where the teacher as a mediator provides the necessary for learning means. Mediation enables to gain a benefit from the experience as it acts as a selector, emphasize, framer, and provider of the meaning and a locator of the stimulus in time and space (Klein, 2001, p. 37). In the current study, teacher is considered as the main mediator as learning by students is supported through teaching, which at the classroom level is primarily provided by a teacher (Knoors and Hermans, 2012, para. 11).

**Communication** – All humans are born with an inherent drive for communication, which is a complex process of interchanging thoughts, feelings, information through sets of established codes, signals and symbols, which occurs between two or more person (Skjorten, 2001, p.



244). According to Johnsen (in press 2013), “*without communication there will be no education, no matter how qualified and relevant the adaptation of intentions, content, methods and organization seems to be... [communication is] the core of interaction and mediation*” (p. 34). Communication provides a bases for ‘intersubjectivity’, common understanding that is a necessary aspect of learning and development (Vygotsky, 1978, Rogoff, 1990).

**Teaching/strategies** - Oxford online dictionary (2015), defines strategy as a plan of action designed to achieve overall goal, as the art of planning, directing operations and movements to achieve a particular purpose. Within the study teaching strategies are considered as the teaching-learning mediating means. Every means applied by a teacher (assessment, feedback, methods, human and material aid, classroom arrangement and so forth) that enables learning and achievement of desired educational outcomes refer to teaching strategies.

**Inclusive Education**– Nowadays, education of students with special needs is mostly located within the inclusive policy and practice emphasizing the need to enhance a regular learning environment for the diversity of learners. Inclusive education implies the provision of educational process, which takes into account the unique characteristics, interests, abilities and learning needs of each and every learner. It aims to increase the access to regular classrooms for learners through individually suitable education, special accommodations, and a learner-centered pedagogy able to meet learners’ needs (UNESCO, 1994, para 2).

**Vocational Education** –Vocational Education is attributed to formal education, which prepares individuals for the modern trades through equipping them with the structured competences related to specific occupations (Eichhorst, Rodriguez-Planas, Schmidl & Zimmermann, 2012, p.1). In the study, vocational education is applied according to the form it has in the Georgian context referring to the formal education governed by the MoES, which takes place in the educational entities (collages) independent from schools after the compulsory 9-year general education.

## **The Thesis Outline**

The paper contains the following parts: Introduction (1). Theoretical Framework and Literature Review (2). Methodology of the Study (3). Presentation of the Findings (4). Discussion, Conclusion and Recommendations (5).

# 2 Theoretical Framework and Literature Review

## 2.1 Introduction

The chapter consists of two parts. The first part introduces the theoretical principles of the study and the Cultural Historical Activity Theory (Engeström, 1987), chosen as the framework of investigation. As suggested by Creswell (2014), theory provides starting point for the study and guides researcher to work out important issues to be examined (p. 64). Explicit use of theory or pre-existing concepts helps to define the focus of the study, to select and organize facts and highlight the important aspects of the case. Theory will make description interpretive rather than merely a mirror image (De Vaus, 2001, p. 225).

The second part is dedicated to the review of related literature on deaf individuals' education. According to Gall, Gall and Borg (2003), *“unless your study explicitly builds on the work of other researchers in your area of inquiry, it is unlikely to contribute to the research knowledge”* (p. 90). The search of the literature was guided by the chosen theoretical model intended to find evidence on mediating means of teaching and learning of deaf students. As no research has been done yet on deaf education in Georgian context, mainly the international studies were reviewed. Both, the primary and secondary sources were considered.

The Chapter contains the following sub-topics: The Cultural-historical Activity Theory (2.2.1). Main Principles of the Cultural-Historical Theory (2.2.2). Application of the CHAT (2.2.3). The Issues of Deaf Education (2.3.1). Factors Influencing Deaf Students' Teaching and Learning (2.3.2). Strategies Supporting Deaf Students' Teaching and Learning (2.3.3). Summary (2.4).

## 2.2 Theoretical Framework

### 2.2.1 Cultural Historical Activity Theory

The Cultural Historical Activity Theory (CHAT) was chosen as the theoretical framework of the study. CHAT is a commonly accepted name of the theoretical and research approach

taking roots from the cultural-historical traditions associating with the name of Soviet scholar Lev Vygotsky (1978) (Engeström, 1999, p. 1). CHAT further was elaborated by the contemporary scholars internationally and its Scandinavian version taken as the framework of the study is connected with the name of Engeström (1987) (Cole, 1996, p. 139).

The perspectives and the main constructs of the model seem relevant to examine the topic of the study. Flexibility of CHAT as the research framework makes possible to apply it to different settings. Consisting elements of the model and the dialectical relations among them help to understand educational practice in its wholeness and dynamicity. Besides, CHAT as the research approach is suitable to investigate educational practices facing demands of the modern education requiring innovations to transform an old educational patterns into the more inclusive ones. *“CHAT not only helps to clarify the core questions that confront education at the start of the twenty-first century, but also provides a powerful and coherent basis for developing fresh answers to them”* (Wells & Claxton, 2002, p.2).

Before introducing the CHAT as the research model, it is important to discuss the fundamental principles of the cultural-historical traditions the CHAT is based on.

### **2.2.2 The Main Principles of the Cultural-Historical Theory**

The fundamental principle of the cultural-historical theory is that *“all learning situations are indelibly social and cultural”* (Wells & Claxton, 2002, p.10). Cognitive development is embedded in its sociocultural context and formed in the course of subject's interactions with its environment (Rogoff, 1990, pp 7-8; Vygotsky, 1978, p. 88). According to Vygotsky (1978), any higher mental function before becoming a truly internal –‘intrasubjective’- function of an individual unavoidably goes through an external social – intersubjective - stage and is constructed between people (p.57). As argued by Engeström (1999), *“all meanings are created in the public domain, in context of collective situations and activities”* (p. 58).

Person acquires culturally shaped knowledge through participation in everyday activities, through social interactions and communication with more knowledgeable others, through internalization of external operations and cultural tools (Cole, 1996, Rogoff, 1990, Vygotsky, 1978). Tools are everything, every material and/or conceptual means [from simple pen to complex language] invented and accumulated by humans during their history to mediate

thinking processes and interaction with the environment (Rogoff, 1990, p. 197; Vygotsky, 1978, p.56; Cole, 1996, p. 110).

Undeniably, the process of teaching and learning can be considered as a collective practice of meaning creation and the space for application and acquisition of cultural tools. The proponents of the cultural-historical traditions viewed formal education as the sociocultural institution in which learning is organized in a systematic way and is guided by the teacher (Vygotsky, 1978, Cole, 1996). Rogoff (1990), defined process of education as a guided participation, collaborative process between a teacher and a learner by which a teacher meets learner's present understanding and skills and through structuring learner's participation in activities leads him/her to reach new understanding and skills (p.8). To stress the special interactional nature between a teacher and a learner, Vygotsky (1978), introduced the notion of zone of proximal development (ZPD) defined by the scholar as a distance between the actual and potential developmental levels of an individual, as the distance between independent performance and the performance guided and supported by the capable others (p.86). The concept of ZPD points to an important role of a teacher in structuring and guiding learner's engagement in activity and stresses importance of learner-centered and individually adapted education responding to learner's unique characteristics that resembles the one of the main principles of inclusive education (UNESCO, 1994).

Teacher through sensitivity to learner's needs and abilities can mediate meaningful learning experiences that are both challenging and achievable for the learner (Kirk et al. 2012, p.93). Mediation is an intentional act (Klein, 2001, p. 38); only human beings can create the special conditions needed for learning and development (Cole, 1996, p. 145). Thus teaching becomes ultimately 'human intervention' (Vygotsky, 1978) and the process of teaching and learning-human endeavor. All actions and instruments supporting achievement of new understandings and conceptual changes in a learner act as mediation.

Teaching and learning is joint process and its outcomes is the product of collective effort. While teacher and other capable ones provoke important transformational changes in a learner, the latter, via individual characteristics and responses on provided support, often stimulates generation of new interactional patterns and mediating means. This type of development goes beyond the individual level and touches the changes in collective practices. As stated by Rogoff (2003), "*human development is a process in which people transform*

through their ongoing participation in cultural activities, which in turn contribute to changes in their cultural communities across generations” (p.37).

### 2.2.3 Application of the CHAT

CHAT as the model consists of six key elements: subject, object, mediating cultural tools, community, rules, and division of labor. The main principles of the framework are multi-voicedness, historicity, contradictions and expansive transformations characterized to the activity system. In the CHAT, the object-oriented, collective and culturally mediated activity system is a primary unit of analysis (Engeström, 1999, p. 9) which combines both the object-oriented productive and the person-oriented communicative aspects of human behavior (Cole, 1996, p.140). CHAT makes possible to investigate the interaction among the elements of the one or more activity systems by focusing on challenges and possibilities raised during this interaction. Relational connections among the elements of the model expressed in diagram (Figure 2.1), which represents expanded version of triangular model of subject-object-mediating tools developed by Vygotsky (1978) for explaining human’s behavior (Figure 2.2).

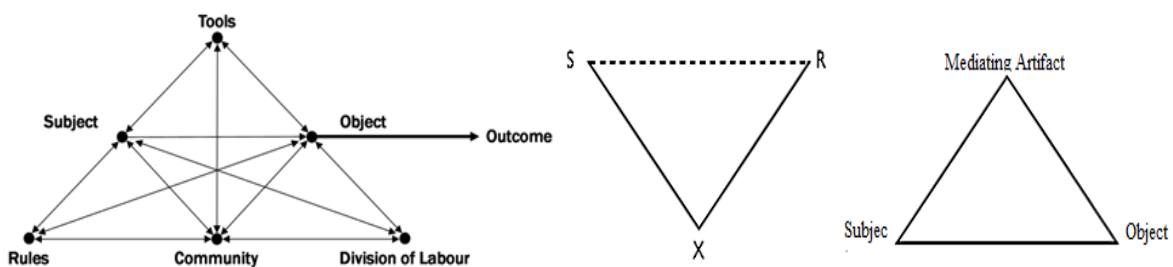


Figure 2.1 Engeström’s model of the activity system. Figure 2.2 Vygotsky’s original model of mediated act and its reformulation (Engeström, 2010, pp.134, 135).

#### Elements of the Activity System

The main elements and principles of the CHAT are discussed in relation to the presented study to make them operational.

**Subject** is the main actor of the activity system, who directs the process and whose actions and agency transform specific objective into the desired outcome. Within the CHAT, subject can be individual or group of people. As a teacher and learner are equally key participants of

teaching and learning, both, vocational education teacher and deaf learner are considered as the subjects of the teaching and learning within the current study.

**Objective** is that key aspect of the system to which activity is directed, which makes subjects of the system to act and put effort. Object-orientidness is the key aspect to understand human psych (Engeström, 2010, p. 134). Thus, teaching and learning objectives become under the interest. In activity system, the object acquires not only individual but also collective meaning and outcomes considered as the lasting, socially important products, rather than situational ones (Engeström, 1999, p. 31). Cohesion between the objectives of the participants is desirable but not the unconditional aspect; theoretically, a teacher and a learner may have different objectives or they may not be equally satisfied with the outcomes.

**Mediating instruments** and mediated acts is a fundamental notion of cultural historical traditions. Every tool, means and actions that enables desired changes within and among the systems acts as the mediation. Mediation as the core concept of the CHAT, makes possible to study interaction between teaching and the learning processes. Communication is the integral aspect of the object oriented practical activity and “object-oriented work is investigated on a par with interaction and sign-mediated communication” (Engeström, 1999, p.12). All means of communication, all actions and instruments strategically applied by the teacher for the realization of teaching and learning are considered as the mediating means within the study.

**Community, rules and division of labor** are those three elements of the CHAT that create the specific conditions of the activity system. CHAT views human activities as the shared practices, collective efforts, ‘community of practice’ taking place in a tangible space and time. Community members potentially are united around the common object. Teachers, supportive service, administrative staff, classmates, even parents who are not the physical part of the setting, compose the community of the vocational setting. Different perspectives, habits, attitudes, expectations and competences of setting participants give ‘multi-voicedness’ to the system (Engeström, 2010, p. 136). Division of labor among the community members organizes and gives order to their work, clarifies their responsibilities and helps to coordinate work. Every activity system has own explicit and more silent, local and global rules, which regulates everyday ongoing practices. Besides, every activity system carries own history, has own background, relational patterns and experiences, possesses specific mediating means generated during the preceding practices. These aspects distinguish one setting from another.

## **The Main Principles of CHAT - Contradictions and Expansive Practice**

One of the main principles of CHAT is a notion of contradictions. Contradictions are structural tensions produced among the elements of the activity system and/or interrelated activity systems. Activity as an open system exposed to new elements from the outside adoption of which often produces the tension between new and old elements and can be a source of conflicts (Engeström, 2010, p. 137). For example, introduction of the new objective, such as provision of education to a deaf learner, which is associated with new demands could disturb the dynamics of existing teaching activity system; new values and requirements allied with inclusive education, newly established positions, new teaching demands may come in conflict with the established norms and practice.

However, activity system has a potential to ‘recover;’ and these contradictions besides the conflicts, can generate innovative attempts and changes (Engeström, 2010, p. 137). For instance, unique needs of deaf learners may stimulate development of more adapted teaching strategies; enrollment of new specialists in the setting may stimulate development of new forms of collaborations. Recognition of challenges and resources by the participants can provoke new solutions and expansive practice as activity systems can realize and reproduce themselves by generating new actions and operations (Engeström, 2010, p. 136).

## **Conceptualizing Teaching and learning as the interacted activity systems**

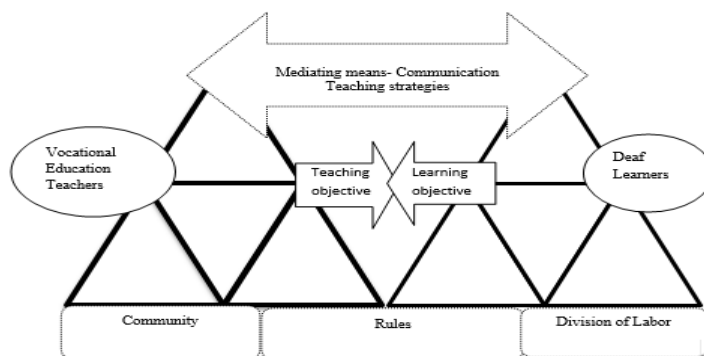
Within the study the teaching and learning is conceptualized as the interaction of two related activity systems - teaching and learning. The one activity system is driven by the objective of a teacher and another - by learner’s objective. At the classroom level these two activity systems become cohesive process allied through the mediating means and this interaction creates the space for developing new meanings and experiences; teaching and learning becomes the joint work of the two interacting subjects -a teacher and a learner. As the study emphasizes investigation of the teaching and learning of deaf vocational students taking place in the same space and time of the concrete vocational setting, it is assumed that this two interacting activity systems have shared elements such as rules, community and division of labor.

Even activity system proposed to be the unit of analyses, to avoid unnecessary complexity, it is recommended to narrow the focus and identify the bounds of the study. That does not mean

ignoring essential aspects rather than regarding all silent features not being specifically examined within the clarified scope of inquiry (Yamagata-Lynch, 2010, p. 25).

Analysis of the mediated process between teaching and learning, its challenges and resources become the main focus of the study. The graphical expression of the interactional process between teaching and learning is presented in the Figure 2.3

Figure 2.3 Teaching and learning - two interacting systems



## 2.3 Review of the Related Literature

### 2.3.1 Issues of Deaf Education

Challenges of teaching and learning of deaf students and insufficient academic attainments leaving majority of deaf learners behind of their hearing counterparts at every educational level (Marschark & Spencer, 2010, para 31) remains the concern of educators and researchers.

According to Rydberg (2010), low academic attainments of deaf students can be a factor of a high rate of deaf unemployment and a low income to compare with hearing individuals as indicated by the studies conducted in different countries; besides, deaf individuals are mostly employed in jobs requiring relatively low education level (pp. 21, 22, 23). Even though, low academic achievement may not be the only factor resulted on deaf individuals' low employment and income rate, is the factor that could not be underestimated. It is mainly through academic achievements in the public education students acquire the knowledge and skills necessary to succeed within their own societies (Marschark & Spencer, 2010, para 19). High academic attainment is the outcome of the successfully provided teaching and learning.



In our era, theoretically deaf students have equal access to education as the hearing ones. Over the past decades, changes in educational policies oriented towards more inclusive practices caused increased number of deaf students in regular educational settings in different educational levels worldwide (Foster, Long & Snell, 1999, Marschark & Convertino, 2008). Increased postsecondary education opportunities for the deaf and access to regular vocational education can be considered as the important occurrence in deaf education. Inclusive vocational education is the best possibility to prepare deaf individuals for the open inclusive labor and for successful co-participation with the hearing majority.

Yet, the increased number of deaf students in education has not automatically promoted proper approaches to their teaching and learning. According to Lang (2002), *“not only doors begun to open for deaf people in many countries but also there is a growing body of literature regarding the inclusion of these students and of their educational needs”* (p. 268). Inclusive education that calls for offering meaningful and individually adapted education to each and every learner (UNESCO, 1994) creates challenges for teachers. This challenge is doubled when the matter is deaf education as besides specific linguistic, communication and learning needs, also the great heterogeneity is inherited to deaf as the population. As stated by Stewart and Kluwin (2001), *“deaf students arguably present the most complex challenge for teachers of any group of students in both the general and special education populations. Every corner of their education is multidimensional and each dimension has a potential to significantly impact their academic achievement”* (p. 14, as cited in Luckner, 2010, para 50). According to Marschark, Convertino and LaRock (2006), deaf students often receive teaching, which is not always fit their preceding knowledge, learning style, and language comprehension abilities (p. 184 as cited in Knoors & Hermans, 2010, para 47).

Based on the literature, in spite of educational level, there are common difficulties associated with deaf individuals' education. Communication needs and teaching practices are the most often raised matters as the potential difficulties associated with deaf students' inclusive education (Cawthon, 2001, p. 212). Long et al. (1991), reported that deaf students' perception of ease of classroom communication was a significant predictor of their test scores and grades (as cited in, Richardson, Marschark, Sarchet & Sapere, 2010, p. 359). Communication provides the platform on which inclusive teaching practice for deaf students is built on (Cawthon, 2001, p. 214). When some scholars make the main accent on classroom communication, others propose to find the factors apart from it that constitute effective and

responsive teaching of deaf students. According to Stewart (2006), “*there is a more to good teaching than just the way a teacher communicates*” (p. 207, as cited in Luckner, 2010, para 34). According to Antia, Stinson and Gaustad (2002), inclusion is impossible without deaf student’s access to communication, but latter is not an only sufficient factor, but also deaf learners and their teachers’ unique needs must be accepted by the school community (p. 214). Powers (2002), suggested several indicators of inclusive practice for deaf students among which are: acceptance of differences by the learning community, an effective communication environment and regular opportunities to interact with hearing peers, access to formal curriculum via flexible approach and effective teaching strategies, knowledgeable teachers and learning assistance, proper attitudes towards deaf learners (pp. 237-238).

### **2.3.2 Factors Influencing Deaf Students’ Teaching and Learning**

Access to hearing classroom is very complex and factors effecting deaf students’ teaching and learning are diverse, but some of them seem the most influential and remarkably often addressed in research literature on deaf education.

**Interpreters’ limited content knowledge** - Because of restricted auditory perception and specific linguistic needs, deaf learners in regular, oral-based classrooms mainly depend on mediated communication and learning through sign language interpretation. Despite the importance of the latter, interpreter-mediation could carry certain problems to the teaching and learning process. Insufficient knowledge of the particular subject by interpreters may cause alterations of content and negatively influence the accuracy and completeness of the information a deaf learner receives (Knoors & Hermans, 2010). In the study by Foster et al. (1999) insufficient knowledge by the interpreters of content and of the material related main concepts was one of the main problems reported by deaf participants. Similarly, Powell, Hyde and Punch (2013), based on their mixed study reported sign language user students’ frustration caused by interpreters’ lack of experience or qualification to transfer lectures’ content effectively. Schick, Williams and Kupermintz (2005), while investigated 2100 educational interpreters across the United States reported that about 60% of the interpreters revealed inadequate skills to provide deaf students’ full access to classroom information. Interpreters had difficulty to represent those aspects of messages that had direct relevance to classroom instruction. Many fragmented information, omissions and simplifications of teachers’ messages were reported in interpreted versions.

**Time lags and pace of instruction** - The pace of teacher's instruction appears another influential factor related to sign-language mediated learning. According to the research-based overview by Knoors and Hermans (2010), an interpreter-mediated learning often lead to time lags between spoken and sign messages and pace of instruction is among other variables influencing deaf students' academic achievements (para13,39). Cawthon (2001) investigated inclusive teaching practices with deaf students with the main focus on classroom communication. The author found that time lags between speech and signs sometimes made interpreters to abbreviate teacher's speech, thus negatively influenced the completeness of information delivered by the teacher. In the study by Foster et al. (1999), deaf postsecondary students showed significantly low satisfaction in comparison with their hearing peers with teachers' pace and expressed a concern that teachers often proceed the lecture without scrutiny if deaf student follows the content. Similarly, Richardson, at al. (2010) based on the study focusing on the access to classroom information of deaf postsecondary students in special and regular settings, found that deaf students in regular settings were especially sensitive to the pace of teaching.

**Limited communication between deaf student and hearing teacher** – Based on evidence, direct communication between a hearing teacher and a deaf student in regular classes is often limited. Foster, at el. (1999), based on their study results reported that differently from hearing peers, deaf students' communication was mostly connected with the interpreters, not with teachers. The authors found unlike their hearing peers who put more emphasis on effective communication with teachers to get access to learning material, deaf students mostly stressed the importance of effective communication with interpreter. Restricted direct communication was mentioned by the teachers as well; as was reported the physical set-up of classroom and deaf students need to watch an interpreter reduce the degree of direct contact between teacher and deaf student. While undertaken different actions teachers often break visual contact between deaf student and their speech. Based on the study results by Cawthon (2001), when the sign language interpreter presented in the classroom, the interpreter seemed at times the only fluent communication partner for deaf students. In addition, the author noted that deaf students received limited language input from their teachers to compared with hearing students; the rate of questions posted to deaf students was lower than to hearing peers. Similar issue were stated by Knoors and Hermans (2010, para 50) based on review of the studies conducted in United Kingdom. The open-ended questions posted to deaf students were much rare than to their hearing peers. Deaf students had less opportunity to initiate interaction

and their teachers tended to dominate during the classroom interaction. Richardson, et al. (2010), reported deaf learners' reluctance to ask questions during lessons.

**Restricted participation in classroom discussions/conversations** – According to Foster, et al. (1999), deaf students' access to classroom discussions in regular settings is mostly restricted. Deaf students' successful participation in classroom discussions largely depends on their commitment to effective communication and also the commitment of their teachers and peers (several speakers at a time, rapid change of speakers, pace of topic change, discussion of many ideas at a time) (Lang, 2002, p. 275, Knoors & Hermans, 2010 para 39). Interpreting becomes difficult when more than one speaker is involved (Cawthon, 2001). Based on their study results, Richardson et al. (2010), reported that deaf students in regular classrooms were concerned with maintaining effective communication in classroom discussions and with avoiding communication breakdowns, while experiencing some frustration and collapses with both. Similarly, Powell et al. (2013), while examining postsecondary deaf and hard-of-hearing students' experiences of learning and social participation in New Zealand, reported that classroom discussion was named as the one of the main troubles by the respondents. Besides, according to Foster, et al. (1999), deaf students have a less access to informal information exchange with hearing peers. Summarizing findings of several investigators, Knoors and Hermans (2010), concluded that deaf students in regular learning environments often feel themselves excluded and isolated from classroom communication and interactions.

**Difficulty to attend multiple tasks** – Deaf learners' restriction to attend multiple task at one time during the lessons such as interpreter, demonstration of procedures by the teacher and taking own notes is another challenge of deaf education (Richardson, et al. 2010, p. 358). As teachers have to manipulate some procedures and explain in parallel, deaf students who have to watch interpreter to reach the teacher's explanations, often have to choose whether to watch an interpreter or a teacher; thus, deaf learners lose some part of information. (Foster, et al. 1999). The problem of task attendance increases if teaching is less organized. Unstructured information delivering style makes significant troubles for deaf learners (Powell, et al. 2013).

**Difficulties of content comprehension** - Both for hearing and deaf students understanding of the content/material is one of the main factors making them feel as a class participant; however, the comprehension of content by deaf learners seems to be a great challenge (Foster et al., 1999). Besides communication barrier, other factors may limit content comprehension. Deaf students mostly come to college with less prior content and vocabulary knowledge than

their hearing peers (Richardson, et al. 2010, p. 358). Based on literature review by Luckner (2010), many deaf students demonstrate experiential deficit that negatively influence understanding of a new information, concepts and procedures. Deaf students may lack the language skills necessary to follow more abstract conversations, comprehend text, and understand the events (p. 46). Understanding of written content by deaf learners may be restricted because of limited reading skills observed in many deaf individuals (Knors and Hermans, 2010). Based on the results of the experimental study by Borgna, Convertino, Marschark, Morrison and Rizzolo (2010) held with college deaf students, difficulties of vocabulary, grammar, inferencing and information processing detected during the reading of deaf students, also found in processing of sign language.

### **2.3.3 Strategies Supporting Deaf Students' Teaching and Learning**

In spite of existing challenges, the evidence from the field proves that *“under specific conditions, it seems possible for deaf students to learn as much as their hearing peers, at least in postsecondary education”* (Knors & Hermans, 2010, para 62).

At the classroom level, mainly a teacher is that agent of changes who through application of proper strategies can create learning enabling environment for students. Based on Knors and Hermans (2010), there is no evidence supporting certain disability-specific teaching strategies rather than application of variety of strategies adapted to individual deaf learner's cognitive, linguistic, communication and social characteristics is the most effective (p.3). Nonetheless, scholarly literature on deaf education reports certain teaching strategies which are especially beneficial for deaf students' teaching and learning. Similarly, certain teaching strategies as the effective for the inclusive practices with students with special needs was reported by the National Council for Special Education (Winter & O'Raw, 2010, p. 89).

**Experiential and active learning** – Based on evidence, providing deaf students with plenty of opportunities for the experimentations and practicing, stimulating their active engagement in learning process support learning of material (Luckner, 2010, para 47). Lang et al. (1998), in the study focused on investigation of learning styles of 100 deaf college students, found significant correlation between students' 'participative' learning style, and their academic grades. Active involvement of deaf students in learning process and leaning by doing, enhance the chance of better learning of the course material (Lang, 2002, p. 273).

**Participation in classroom discussions** - Luckner (2010), summarized strategies supporting deaf learners' participation in class discussions among which are: frequent questioning, repetition of questions and answers of other students, checking student's comprehension of conversation and encouraging student-teacher and student-student interactions. Based on literature review by Knoors and Hermans (2010), allowing time to deaf student to read information before starting its discussion, controlling a pace of discussions, ensuring visual turn taking (look from speaker to speaker) and arranging appropriate seating, support deaf students' participation in classroom discussions (para 40, 65).

**Information delivery and content presentation** – Based on results of different studies Knoors & Hermans (2010) described strategies of information delivery and content presentation which respond deaf learners' visual information processing requirements. Among them are: modification of teaching pace (quality and pace of instruction); allowing time to deaf student to look from a speaker to a speaker or from a speaker to a text or visual display; provision of appropriate time for a deaf student's response; intentional use of eye gaze by teacher to guide deaf students' attention to particular aspects of the process; structured and well-organized manner of content presentation; clarification of and accent on the most important concepts and the connections between them; application of visual aids/graphical organizers which help to structure information and highlight key aspects (para 40, 42, 45, 65). Similarly, Winter & O'Raw (2010), reported information conveying strategies being effective in inclusive classrooms such as demonstration and modeling, sequencing of procedures, clear and short oral and written instructions provided individually and one at a time (Winter & O'Raw, 2010, pp. 89, 91).

**Knowledgeable interpreter** - According to Lang (2002), familiarity of the interpreter with the content, specific terminology and vocabulary of the particular discipline may support more accurate transmission of information (p. 271). Understanding of concepts by the interpreter alongside with the good signing skills was the main positive factor of successful interpreting reported by Foster et al. (1999) based on their study results. In the study with 60 deaf college students, study participants taught through skilled interpreter were scored twice higher than those who was learning through unskilled interpreter (as cited in, Lang, 2002, p. 271). Marschark, Sapere and Convertino (2008) investigated effect on deaf college students' learning of direct communication with instructors signing themselves and mediated communication with the sign language interpreters. Based on results, the quality of instruction

appeared as the most important factor for content learning, independent of whether instruction was direct or mediated. The authors concluded that one of the necessary aspects for creation of optimal learning conditions in postsecondary education for deaf learners are the excellent sign language skills and the ability to adapt these skills to deaf student's needs.

**High expectations and learning challenges** – According to Antia, et al. (2002), high and realistic expectations towards deaf learner enables teacher to set proper academic demands and make proper classroom adjustments for deaf student (p. 220). Based on their experimental research Borgna et al. (2010) concluded that deaf learners need higher expectations and more challenges from educators; instead of making deaf learners instrumentally dependent on others, it is essential to provide support in discovering answers themselves. According to Marschark and Hauser (2011), to help deaf students develop cognitive flexibility and become independent learners it is important to make them face challenges (p. 72).

**Explicit teaching** – Based on the academic literature, formulation of clear expectations for high quality work and provision of models of expected work clearly stating how it is to be done, setting clear objectives, providing direct and explicit instructions together with precise feedback and correction, appeared effective teaching strategies for deaf learners and generally, for the inclusive practice (Luckner, 2010, para 53, Winter, O'Raw, 2010, p. 91). Borgna et al., (2010), based on experimental study aimed to explore factors influencing deaf students' learning and accuracy of metacognitive judgment concluded that deaf students require more explicit instructions related to those academically relevant cognitive and metacognitive skills which support language comprehension, awareness of own knowledge, application of prior knowledge and self-monitoring.

**Classroom management** – Based on literature review made by Luckner (2010), Knoors and Hermans (2010), there are certain tactics of classroom management supporting deaf students' learning such as: regulation of classroom noises and provision of good acoustics, student's appropriate placement and effective use of the technology. Besides of physical characteristics, cooperative learning and establishment of good relationships between hearing teacher and deaf student and among students appeared essential. According to Antia et al. (2002), teacher must put effort to ensure that instructional interaction occur in a classroom and set purposeful and cooperative activities with realistic and productive roles for both hearing and deaf students; well-structured cooperative activities stimulate communication and positive social interaction among deaf and hearing students (pp. 219, 222-223). According to Winter and

O’Raw (2010), techniques of cooperative learning are among the best documented approaches promoting inclusive classroom practices. In addition, wide range of studies prove the academic and social benefit of peer tutoring in inclusive contexts for tutor, receiver of support and for teacher. Peer tutoring frees teacher from the necessity to always be nearby the student who needs periodic individual support.

**Sensitivity to deaf learners’ needs** –Systematic monitoring and evaluation of student’s learning progress, formative assessment, provides a teacher with necessary knowledge to permanently adapt teaching based on student’s ongoing needs (Luckner, 2010, p. para 37). Besides familiarity with individual deaf learner’s needs, a teacher needs to understand deaf learners as the population. Understanding deafness as an educational condition was preferable characteristic of teachers identified by the inquired deaf students (Lang, 2002, p. 274). Also, hearing students’ awareness of deafness and its implications, supports good peer relationship and improves the learning conditions for deaf students (Antia et, al. 2002, p. 219).

**Support service and collaborative practice** - The important role of sign language interpreting service for deaf students’ access to communication and learning content in regular classrooms was reported by several studies. In the study aimed to describe the conditions affecting deaf students teaching and learning in regular postsecondary settings, Foster, et al. (1999) investigated deaf, hearing students and their instructors’ perceptions of communication. The central role of the interpreter was reported by the main part of deaf respondents and instructors while discussing the best communicational situations during the lessons. The important finding of the study was that presence in class of deaf student and interpreter was reported as the learning beneficial factor by the hearing classmates. Because of a deaf students, teachers had to modify their speaking pace and teach in a way that also increased hearing students’ access to content. Lang (2002), reviewed the results of studies conducted in different countries related to supportive services. According to them 25.6 % of university and college deaf students in Japan stated less attractiveness of postsecondary institutions because of the absence of support services and 99.2% of deaf students in Germany reported the necessity of support services (note-takers, tutors, interpreters). Note-taking as very useful support was named by most deaf respondents in the study by Powell et al. (2013).

However, as stressed by Luckner (2010) only existence of support services is not a sufficient condition but collaboration between teachers and other professionals, as well as family members, is an important aspect (para 30). Clarification of the roles and responsibilities of the



community members, effective division of the labor and strong collaboration is the necessary aspect of the successful inclusive practice for deaf (Antia, et al., 2002, p. 221). According to Friend and Cook et al. (2010), *“through collaboration professionals can create innovative options within a single system of education that is more responsive to the diversity of today’s learners”* (p.23).

## 2.4 Summary

During the history of deaf education, the scholars tried to figure out what is the most appropriate and effective teaching approaches and strategies for deaf learners’ academic success, especially in general educational context. The result of enduring scientific search and discussion is best articulated in a summary by Knoors and Hermans (2010) stressing that optimal learning environment for deaf learners requires *“that teachers’ good communication skills and sound teaching practices go hand in hand”* (para 31).

The sound teaching practices imply teaching within the zone of learner’s optimal development and search for the most suitable mediating means when certain tool does not work for individual learners as *“when your fork proves inadequate to the task of eating soup, it makes little sense to argue about whether there is something inherent in the nature of forks or something inherent in the nature of soup that accounts for the failure. You just reach a spoon”* (Menand, 2001 as cited in Marschark et al., 2007, pp.422-423).

# 3 Methodology

## Introduction

The chapter introduces methodology worked out to investigate the target phenomenon- the teaching and learning process of deaf students in ordinary vocational setting in Georgia. The chapter consists of the following topics: description of the research design (3.1), sampling procedures, the study participants and the site of the phenomenon (3.2), gaining the field access (3.3), the methods of data collection (3.4), developing interview guides (3.5), data collection (3.6), data analysis (3.7), description of validity and reliability of the study (3.8), ethical considerations (3.9), limitations of the study (3.10).

## 3.1 Research Design

Research design represents the logical plan of the study, which helps to maintain coherence among its elements, stages, and procedures (Maxwell, 1996, p. 3). Yin (2014) compares a good design in qualitative research with the design of a ship, which ensures an effective and safe reach of the destination (p.28). To guide the investigation, I developed a *Descriptive Qualitative Case-Study* design. The proposed design incorporates the conceptual basis of the research, methods of data collection and analysis that help to answer the research question: “How teaching and learning of deaf students is practiced in an ordinary vocational education setting.” Below all aspects of the design discussed distinctly.

Qualitative approach adopted by the study is situated within the constructivism paradigm that considers social reality as constructed by the individuals personally experiencing this reality (Gall, Gall, & Borg, 2007, p.21). Respectively, qualitative research focuses on the meanings people assign to the social phenomena experienced by them (Savin-Baden & Major, 2013, p.11). As teaching and learning process of deaf vocational students is a concrete reality experienced by teachers and learners, qualitative approach oriented to obtain the data about the phenomenon from its key participants’ perspectives through the direct interaction with them was considered as the most suitable one. The need to include subject’s views in investigation is stressed in the theoretical model of the study according which: “*the analyst must select a subject, a member (or better yet, multiple different members) of the local*

*activity, through whose eyes and interpretations the activity is constructed”* (Engeström, 1999, p. 10).

It is notable that qualitative researcher admits the fact that all qualitative research is inherently subjective (Savin-Baden, & Major, 2013, p.12). This subjectivity considers not only the emic (insiders’ - study participants’) but also etic (outsider’s- researcher’s) perspectives.

Unavoidably, researcher enters the field with some pre-existing knowledge, theoretical constructs and expectations, so the analysis incorporates both - participants’ and researcher’s ‘accounts’. Besides, in qualitative research investigator represents an instrument of investigation (Maxwell 2013, p.88) and through personal involvement influences its flow and outcomes. Maxwell (2013), claims that in qualitative research it is impossible to fully eliminate researcher’s influence on the study and the goal is not elimination, but the understanding of own influence for its effective use (p. 125). Hence, qualitative researcher should be conscious and reflexive about own effects and personal biases (Creswell, 2014, p. 187). Reflexivity defined as the *‘self-critical’ sympathetic introspection and the conscious analytical scrutiny of the self as researcher”* (Savin-Baden and Major, 2013, p. 76).

For instance, the fact that for the time of inquiry I had previous experience in the field of deaf education and was in touch with vocational education had its own effect on the course of study. On the one hand, being aware of deaf learners’ needs and different aspects of vocational education, was helpful in selecting the conceptual model, searching literature, preparing and planning interviews. Previous experience also made key people easily accessible to me. On the other hand, my pre-constructed understandings formed some expectations and stereotypes towards what type of information might be collected, creating the risk of missing unexpected meanings and essential features of the phenomenon and making biased interpretations. Thus, the reflexivity became the important tool of the whole process of investigation.

**Descriptive** nature of the study is articulated in the type of knowledge it strives to generate mainly answering the question *“what is going on?”* (De Vaus, 2001, p.1); it intends to describe what currently exists (contemporary phenomenon) and in which circumstances it exists (context of the phenomenon). Accurate detection and description of the novel for the Georgia phenomenon as inclusive vocational education of deaf can help to understand the current practice and clarify its future needs. As argued by Gall, et al. (2003), to have firm basis for explaining and changing any educational phenomenon first its accurate description is

necessary (p. 290). It is notable, that descriptive studies are never merely description of the data, but implies its interpretation as “*all descriptions are our descriptions, rather than the description of the case*” (De Vaus, 2001, p.251).

**Case Study** – The current study is sited under the niche of the case study design, which is defined as “*an empirical inquiry that investigates a contemporary phenomenon (the “case”) in depth and within its real-world context*” (Yin, 2014, p.16). Being in harmony with the qualitative traditions, case study reflects the perspectives of participants experiencing the phenomenon itself (Gall, et al. 2007, p 447). The main features of the case study was considered as suitable to investigate process of vocational education of deaf learners that is relatively recent phenomenon for Georgia, requiring direct interaction with the study participants for obtaining their viewpoints and meanings in regard to the phenomenon.

The case study inquiry appreciates multiple methods of data collection that was one of the attractive aspects, as the teaching and learning process requires a comprehensive approach to understand both the phenomenon and its context.

In the case study designs ‘a case’ is the unit of analysis, “that we seek to understand as the whole” (De Vaus, 2001, p. 220). In the presented study, the unit of analysis is the teaching-learning process of deaf vocational students. As any phenomenon has several aspects, Gall at al. (2007), suggest to select the main focus of investigation and to define the aspects for data collection and analysis (p. 448). This suggestion is in line with the CHAT as a research framework advising to narrow down the focus of analysis and identify bounds of the study. Mediating means and acts and challenges and resources of the teaching and learning process become the main focus (sub-unit) of analysis.

*Table 3.1* Summary of the Study Design

Qualitative Descriptive Case Study Design	
Constructivist paradigm	Social reality as the one constructed by the individuals personally experiencing this reality.
Qualitative approach	Focus on meanings participants assign to the phenomena experienced by themselves, subjectivity; qualitative methods of data collection and analysis - verbal description and interpretation. Researcher’s reflexivity through the whole process of inquiry.
Descriptive	Generation of knowledge about the phenomenon through its detection and description, through answering the question “what is going on?”
Case study	In-depth investigation of a contemporary phenomenon (the “case”) within its real-world context; multiple methods of data collection;
Unit/case	Teaching and learning process of deaf students in vocational education setting
Sub-unit	Means and acts of mediation, its challenges and resources

## 3.2 Sampling, Research Participants and Site

### 3.2.1 Sampling

Qualitative studies are mostly oriented towards collecting information about the phenomenon from individuals directly experiencing this phenomenon, from the concrete cases instead of general population. Thus, the sampling strategy in qualitative studies allows purposeful selection of ‘information-rich’ cases with respect of the study purpose (Gall, et al. 2003, p.165). Correspondingly, the purposeful sampling strategy was applied to find the most ‘knowledgeable people’ about the teaching-learning process of deaf students in vocational settings. As within the study, both, teacher and learner are considered equally important subjects of teaching and learning process, deaf learners and their vocational education teachers were considered as the participants of the study. Through combining different experiences and perspectives regarding the same phenomenon, teachers and learners can build up a more complete picture of the whole unit. To select the actual participants, the special criteria were developed:

***Sign language user deaf students***– Based on the preliminary knowledge, not all deaf vocational students used sign language or any other communication modes sufficiently. The use of sign language was identified as an important criterion for two reasons: firstly, teaching deaf students with sign language interpreter in vocational education is a new experience for the country and its influence on the course of teaching-learning was within the interest of the study; secondly, the knowledge of sign language was a necessary condition for conducting interviews with deaf respondents.

***At least 4-5-month experience of learning (for students) and teaching (for teachers)*** - as the study intended to get information about the teaching-learning process from the teachers and learners, at least a 4-5-month experience of teaching-learning was considered as an important criterion for the purpose of better reflection on it.

***Geographical location of the vocational education setting*** - Deaf students are included both in the regional and capital city’s vocational settings. As I am from the capital city myself and conducting the research in the unknown places could cause additional challenges to me as a novice researcher, the preference was given to the settings situated in the capital.

After formulating the estimated criteria, I approached the managerial staff of the project: “Implementing Inclusive Education in Vocational Educational and Training System of Georgia.” The first task was to find deaf vocational students answering the preliminary criteria and then their vocational teachers. The focus was made on the ex-students involved in the vocational education in autumn 2013, as by the time of planning the research, the current deaf students and their vocational education teachers did not have enough learning-teaching experience to participate in the study. Four ex-students answering the initial criteria were revealed. Three of them had undergone education in the same vocational setting and the fourth – in a different one. The decision was made to include in the study only the learners and teachers from the same vocational setting that would be helpful to focus on a particular site and more deeply explore it. Besides, the time limits of the study and lack of experience in the field of research would make it difficult to deal with a large amount of data and be less beneficial for the study. According to Maxwell (2004), a relatively small number of participants gives possibility “*to understand how events, actions, and meanings are shaped by the unique circumstances in which these occur*” (as cited in Maxwell 2013, p.30).

All three ex-students completed different vocational programs and thus had three different vocational education teachers. Consequently, 3 deaf ex-students and 3 vocational education teachers were identified as the potential participants to be approached. It was estimated that two students would have graduated from the vocational program about 3-4 months prior to the time of inquiry and one student – in a rather recent past. It was decided to include all the identified participants in case all of them agreed to participate. After fulfilling all the required procedures for gaining access to the field (described in the section 3.3 of the chapter), all the potential participants expressed their will to participate and were included in the study.

### **3.2.2 Introduction of the Study Participants**

Three deaf ex-students and their vocational education teachers, in total six individuals, from three different vocational programs - cook, computer graphics, and internet technology - represent the study participants. There was only one deaf student in each class. To maintain confidentiality of the study participants, their real names are not disclosed. To make easier to follow a particular case, each teacher-learner dyad is assigned by the same labels: Alpha, Beta and Gamma. Even though the participating deaf individuals were ex-students by the time of inquiry, within the study they are addressed as learners or students.

## Vocational Education Teachers

Two of the participating teachers are female and one - male. They are ethnically Georgians and their primary communication language is Georgian mainstream (spoken) language. None of the participating teachers knew Georgian sign language. The participants teaching experiences varied. Teacher Alpha had the most expensive experience of teaching, Teacher Gamma - the least. For all three vocational teachers, it was the first experience of teaching deaf student. None of them had special preparation in deaf education. They had undergone a short introductory course in inclusive education. Teacher Gamma several years ago had undergone a three-week course about intellectual impairments hold together with foreign partners, in the course of which he had a week field visit to a special day center abroad.

## Deaf Learners

All participating learners are males, aged 21-23. They are ethnically Georgians and their main communication mode is Georgian Sign language (GSL). Learner Betta received cochlear implant in his late childhood but does not use it and manly depends on sign language. He acquired sign language later in his life and is less knowledgeable in signs compared to other two learners. Parents of all three learners have ordinary hearing. Communication between participant learners and their family members held through signs (parents know GSL only on the basic level) and lip reading. All three learners are from the capital city and had graduated from the special school. Learner Betta finished 10 grades, learners Alpha and Gamma - 12 grades of general education. All three learners started their vocational education in November 2013 (they undergo adapted enrollment procedure). The duration of their vocational programs varied from 8 to 10 months (excluding official holidays). Learner Betta and Gamma officially finished their education by July 2014; learner Alpha – at the beginning of November 2014.

*Table 3.2* Information about the study participants

Participant	Gender	Communi- cation Language	Hearing Status	Educational background of a learners	Vocational program	Duration of vocational program	Teaching Experience
Teacher A	Female	GML	H	-	Cook	10 months	Extensive
Teacher B	Female	GML	H	-	Computer Design	8 months	Moderate
Teacher G	Male	GML	H	-	Internet technology	8 months	Little
Learner A	male	GSL	PD	12 years	Cook	10 months	-
Learner B	Male	GSL	PD	10 years	Computer Design	8 months	-
Learner G	Male	GSL	PD	12 years	Internet technology	8 months	-

GML-Georgian mainstream (spoken) language; GSL- Georgian sign language; D-deaf; H- Hearing

### 3.2.3 The Site

The site where the phenomenon under the investigation took place is one of the governmental vocational colleges and the participant of the governmental project “Introducing Inclusive Education in Georgian Vocational and Training System” (2013-2016). The setting is situated in one of the suburbs of the capital city. The site is reconstructed and supplied with the equipment and materials necessary for the practical part of the vocational program.

The college provides students with around 30 vocational programs centralized by the governmental agency. The programs last from 6 to 10 months and include fieldwork in different partner organizations; fieldwork varies in duration depending on a particular program. The teaching staff consists of the teachers of vocational education and those teaching various subject (e.g. mathematics, biology) depending on nature of the vocational program. Vocational education teachers, who usually teach both theoretical and practical parts, lead most of the teaching hours. The division of hours is around 20% per theory and 80% per practice. Theoretical and practical lessons are held in the same or different classes depending on the specifics of the program. The number of students is around twenty per class. Based on the general regulations of the vocational education in the country, the final qualification certificate of a particular level (some programs have more levels than others) is awarded based on the passed exams consisting of both written and practical tests. There are two-three intermediate and final exams requiring passing an officially defined minimal barrier and obtaining 16 from 30 scores.

From 2013, after the setting became a participant of the governmental pilot project, an inclusive education specialist and a personal assistant for students with special needs are available at the college. The responsibility of inclusive education specialist is the provision of methodological support to vocational and other subject teachers. An assistant is assumed to support students during both the learning process and out-of-class activities in case of need. These specialists do not have any special preparation regarding deaf education. In case of having deaf students, the setting hires sign language interpreters who must be available during the whole learning process. Sign language interpreters of the college, as any other interpreters in the country, do not have any formal educational background in interpreting; they acquired sign language in early childhood from their deaf parents. Besides, interpreting in educational settings is a novel experience for the interpreters.



As the Georgian Law on Vocational Education is currently under revision, and individual education plans (IEP) and modifications of exams are not officially legalized yet, some vocational settings have introduced internal regulations. Currently, there is no such internal written regulation related to IEP and modification of exams at the target setting; however, inclusive educational specialists are allowed to refer to the administration with the request of adapting exams for particular students in case of necessity.

### **3.3 Gaining Field Access**

Getting access to the field of inquiry and a legal permission to conduct a study from the site “gatekeepers” is a critical procedure of any research (Gall, 2007, p. 458). According to Maxwell, gaining access to the field implies not only an official permission to enter it, but also the establishment of those relationships that allow the researcher to collect necessary data in an ethical way (2013, p.90). The following procedures served as the “keys” for opening the “gate” of the field:

As the study represents a thesis work of the master program belonging to the University of Oslo, the approval for the study was required from the Norwegian Social Science Data Services (NSD), which provides assistance to the researchers and students during their investigations. Therefore, an application was submitted to the NSD. The NSD approval was important for to be confident that the methodological and ethical demands of the study were met. The NSD was the first instance that permitted the study; however, it requested to add particular information for the consent letter for the participant learners (Appendix 1).

Next to the NSD the official letter describing the aim, methods and other important aspects of the study was submitted to the MoES of Georgia, particularly to the Department of Development of Vocational Education and a permission to conduct the study was taken from this authority as well (Appendix 2).

After receiving a support letter from the MoES, I sent an information letter to the principal of the vocational college the potential study participants belonged to. Even though the official permission given by the MoES was sufficient to enter the site, I considered essential to directly contact and inform the site administration for the purpose of future collaboration. After a welcoming note from the principal, I kindly asked her to pass the information letters

to the potential participants and in case of their agreement to support me in establishing further contact with them. All information letters are provided in Appendix 3.

The last but not the least important authorities, who had to give their approval, were the study participants. After receiving the information letters, all three vocational education teachers and deaf learners verbally agreed to participate in the study. The meetings for conducting interviews were individually negotiated with each participant by phone. Phone conversations with deaf participants were established with the help of their family members.

### **3.4 Methods of Data Collection**

Qualitative interview represents the main formal method applied within the study. Qualitative interview is a method that, through face-to-face interaction with the participants, creates the possibility to obtain their unique views and opinions (Creswell, 2014, p.190). How deaf learners and vocational education teachers experience the teaching-learning process is a subjective matter - the subjective truth that can be best obtained through the direct and thoughtful dialog with them.

Qualitative interview had a semi-structured format containing open-ended questions. Semi-structured format is especially useful when the researcher has defined the focus in advance and intends to gain the understanding about the specific topics and constructs as it was in the presented study. Semi-structured interview allows the researcher to ask pre-defined chain of questions and obtain more information about the important themes through probes (Gall, et al., 2003, p. 240). Besides the reasonable control over the process, the flexibility of semi-structured interview makes possible to depart from the guide and ask new questions emerging from the interviewees' replies and to modify not only the order but also the wording of questions (Bryman, 2004, pp.319, 320). The latter aspect seemed especially valuable as it was assumed that the questions addressed to deaf respondents could require changes in wording during the interview. Besides, the approximate structure of semi-structured interview makes possible to compare answers across the participants (Savin-Baden & Major, 2013, p. 359). Thus it was possible to interrelate both groups of participants' answers about the same topics.

The qualitative semi-structured interview was supplemented with the additional informal methods of data collection. According to Maxwell (2013), the use of multiple informal methods is especially important in interview studies; additional information can expand

contextual knowledge and also can help to check the data obtained through the interviews (p.88). Using multiple sources that allow converging the data according to the triangulation technique is the one of the important features of the case studies (Yin, 2014, p. 17).

Consequently, to get information about different aspects of the phenomenon of the interest, to prepare the interview protocol and oneself for the interviews, the following informal data-gathering strategies were employed within the study: familiarization with the key documentary materials (e.g. regulations, reports), visiting vocational setting to become aware of its physical features; conversations with managerial staff of the inclusive vocational education project.

In addition, a focus group meeting was held with the multidisciplinary team members of the MoES involved in monitoring of vocational educational processes in different vocational education settings across the country. It was considered important to get familiar with the multidisciplinary team members' views as they had personal experience of observing vocational education process. The focus group interview was not planned at the initial stage of the study; however, later it was considered useful in order to minimize possible personal biases and increase validity of the study. The focus group interview data was not intended for the inclusion in the main findings. Appendix 4 offers a table of data collection methods.

### **3.5 Developing Interview Guide**

*“The interviewing process requires the preparation of the interview guide, which specifies the questions, their order and makes guideline for the interviewer how to start and end interview”* (Gall, at al., 2007, p. 250). The interview guide developed within the study contained open-ended questions, which give respondents much freedom in their answers and allow them to express their views in personal terms (Gall, et al. 2007, p. 246).

As the study had two category of participants – deaf learners and vocational education teachers, the interview guides were developed for each participant group. To gather the information about common and specific topics from two different groups - learners and teachers, three types of questions were incorporated in the guides: one- identical for both groups, the second- with some modified formulation but still about the same topics, and the third – specific to each group of participants. The special block of questions aimed to gather the background information about the participants. The last question intended to give freedom

to the participant to add any desirable information. The main questions of the interview guide were oriented towards understanding objectives and outcomes of the process, the means of communication and teaching, challenges and resources of the current practice, its outcomes; besides, the interview strived to figure out the participants' perspectives on the prospects of deaf vocational education. Interview guides are presented in the Appendix 5.

### 3.6 Data Collection

The process of the data collection consisted of three main phases (Table 3.3).

*Table 3.3 Phases of the Data Collection*

Phases	Procedure	Time
Phase 1: preparatory, pre-interviewing	Getting information about different aspects of the phenomenon and its context, developing interview guides, gaining access to the field; pilot study.	July-November 2014
Phase 2: main study, interviewing	In-depth interviews with key participants.	November 2014
Phase 3: post-interviewing	A focus group interview with filed experts.	December 2014

**The first phase** of data collection had a preparatory nature aimed to broaden the knowledge of different aspects of the phenomenon and its context. This phase included reading relevant documents and reports, monitoring the internet page dedicated to vocational education, having informal conversations with the field experts, and visiting the vocational setting to get information about its physical features. These activities largely corresponded to Maxwell's statement that "[T]he data in a qualitative study can include virtually anything that you see, hear, or that is otherwise communicated to you while conducting the study" (2013, p. 87). Besides, this phase was devoted to the preparation of interview guides and official letters in order to get an approval from different authorities to approach potential participants. In addition, during this phase I made an agreement with the sign language interpreter of the Georgian Union of Deaf to interpret the interviews with deaf respondents. Although the vocational setting had its own sign language interpreters serving deaf participants, decision was made to include an interpreter independent from the teaching-learning process to eliminate a possible influence that the interpreter familiar with the phenomenon under the investigation could have on the interviews. As the invited sign language interpret and I had former experience with collaboration, she admitted to help me.

## Pilot Study

Pilot study is an essential procedure for any research. *“Methodologically, the work on the pilot cases can provide information about relevant field questions and about the logistics of the field inquiry”* (Yin, 2014, p. 97). The pilot study makes a researcher, more ‘knowledgeable’ in own inquiry. Before piloting the interview with a deaf respondent, I asked the sign language interpreter to revise the questions and ensure that particular words were translatable into the GSL and would be clear for deaf individuals. As a result, some words and questions were simplified or reformulated and some of them were removed. For instance, ‘teaching strategies’ was replaced by the ‘procedures, support provided by the teacher.’

Teacher A and Learner A were participants of the pilot study. The interview with deaf learner was conducted with the help of sign language interpreter. To be certain about all the necessary modifications for the future interviews with deaf participants, interpreter was asked to translate back to the Georgian any changes and explanations she had to use in the GSL while clarifying questions to the respondent. However, this procedure turned out rather hard during the interview and was mainly possible retrospectively, after the interview ended.

Although before the pilot study the questions for deaf participants were revised together with the interpreter, additional modifications appeared to be necessary. For instance, the ‘challenges’ was replaced by “difficulties” and ‘resources’- by the “help” and “support.” The interview with vocational education teacher was held without any trouble and the guide required only minor changes, such as removing a few overlapping questions. For instance: “What helped your communication with the student best?” was removed and “What were the main challenges and resources during your communication with the student?” was left. Both interviews were audiotaped. In the case of deaf respondent, the interpreter’s translation was recorded. Despite some hardships during the interview with the deaf learner, the data gained from both respondents revealed valuable information regarding the research questions. Therefore, decision was made to include the pilot study data in the main findings.

**The second phase** was devoted to the interviews with the key participants. The place and time was negotiated with each participant in advanced. The space for the interviews was kindly offered by the principal at the vocational college. The interviews were conducted with teachers and afterwards with learners. The interviews with deaf learners were mediated by the sign language interpreter.

One of the most important tasks of the interview process, was to establish a good rapport with the participants from the very beginning. Thus, before starting the interview, an informal conversation was held. One of the most critical aspects of the pre-interview conversation with the participants, was the construction of proper perception of me as a student working on her master thesis and needing the participants' support, instead of considering me as a person in 'power.' During the informal discussion, I once again emphasized the important aspects of the study to make sure that the participants had an adequate understanding of all procedures and own role in it. The participants had an opportunity to ask questions and look through the interview guide before providing their responses. The consent letters were signed by each participant. The sign language interpreter also signed a consent to maintain into the confidentiality all interview information. The consent letters are presented in Appendix 6.

Based on the participants' permission all the interviews were audiotaped. In the case of deaf respondents, the sign language interpreter's translation were audiotaped. Besides the audio recordings, some reflective written notes was made to memorize all the important aspects of the interviews that could not be reconstructed only through the audio records. The duration of interviews differed depending on how talkative each individual was. Some prompts were used during the interview when the respondents did not cover spontaneously important topics and aspects defined in advance.

Contrary to my expectation that the interviews with deaf respondents because of sign language interpretation would take more time than those with vocational teachers, the interviews with the latter appeared longer. The approximate duration of interviews with deaf learners was 30 min. and with vocational education teachers - 40 min (Table 3.4).

Table 3.4 Duration of interviews

<b>Participants</b>	<b>Duration of the interview</b>	<b>Approximate duration</b>
Teacher A	43 min.	40 min.
Teacher B	38 min.	
Teacher G	47 min.	
Learner A	35 min.	30 min.
Learner B	26 min.	
Learner G	32 min.	

After the interviews, again the informal conversation was held with the participants. The input made by the participants was appreciated. The participants were offered to have the interpretations of their interviews in case of interest. After the interview, one of the vocational

education teachers kindly offered to visit the learning area devoted to practical activities of the vocational program.

All the participants were eager to answer the interview questions and share their views. It appeared that the topic matched the participants' interest. Generally, openness and willingness to communicate and share personal views are Georgians' cultural characteristics, which also revealed in this case.

**At the final phase** of the data collection the focus group interview was conducted with the multidisciplinary team members of the MoES. At the time of the inquiry, the five members of the team were involved in monitoring process of inclusive vocational education around the country. Three of them who had the experience of dealing with deaf students' teaching and learning process were invited to participate in the meeting. As Bryman notes, focus group participant can be anyone to whom the topic is relevant (2004, p.353). As I personally was familiar with the team members, the negotiation of the meeting was not problematic. The meeting lasted around 1, 30 hour and had a more informal character. The questions used during the group discussion touched the same topics as with the key participants of the study, particularly communication, teaching strategies, main challenges and resources of deaf vocational education. The focus group participants' answers were based on their personal observation of teaching and learning process and dialogs with teachers and deaf students. The focus group discussion was not audiotaped and only notes were made.

### **3.7 Data Analysis**

Similar to data collection, the analysis of empirical data makes the core of any research (Gall, at al., 2003, p. 78). Based on its qualitative nature, the study was oriented towards generating the verbal material concerning the phenomenon. Therefore, the method of 'Thematic Analysis' was applied, which intends the identification of those themes emerged from the data that are important for the description of the phenomenon; this is a method of pattern recognition within the data, use of emerged themes as category for the analysis (Fereday, Muir-Cochrane, 2006, pp. 3-4).

Thematic analysis was recognized as suitable for the study because of its flexibility. It is applied with the range of qualitative frameworks, including the constructionist one, and with

the range of research questions. Themes within the data can be both data-driven, inductive, and/or in theory driven, deductive (Clarke and Braun, 2013, para 3).

The process of data analysis consisted of several steps. Initially, I listened to the interview recordings several times in order to make sense of the data as a whole. Then I converted audio material into the typed text and saved each interview as a separate file. A transcribed version was compared with the respective recording many times, as each revision brought some new information (words, remarks) surprisingly missed during the previous listening.

Furthermore, after numerous careful readings, I broke the text into the meaningful sections – the segments that seemed to carry some completed information or/and responded to the research questions. This process gave me a better sense of the data and its relation to the research questions. Then I categorized each participant group (teacher and learner) producing two tables with six columns. The first column was intended for pre-defined themes, next three columns for each participant's quotes, the fifth column for codes and the last one for themes that would emerge after grouping the codes. I inserted data (the sections prepared ahead) into the table in a respective spaces. Even though during the process of analysis I had to change the placement of particular sections/segments, in general it was a useful strategy to organize a large amount of information and to reflect on how the data contributes to the research questions.

When the text was inserted in the table, I started the process of open coding. The aim of the coding is to make sense of the data, divide it into segments, and assign labels to the segments; to examine overlapping codes and unite codes into broad themes (Creswell, 2012, p. 243). I searched for the parts, and sentences containing the information related to the research questions, highlighted them and afterwards assigned the descriptive codes to them. I compared the similarities and differences among the codes across the data and rejected the overlapping ones.

After grouping the codes, I constructed the themes in line with the statement that “[a] *theme captures something important about the data in relation of the research question, and represents some level of patterned response or meaning with the data set*” (Braun and Clarke, 2006, p. 11). The next task was to reflect how the themes emerged from the data related to a particular pre-defined theme. Besides, I had to compare the themes emerged from each

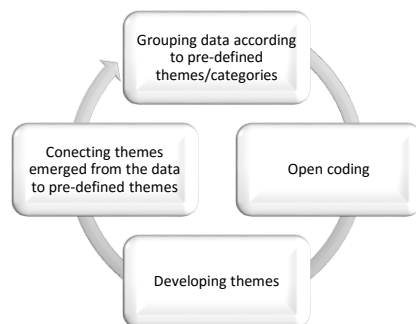


participant group –teachers and learners - to each other. As it turned out, there were some different themes. Example of the table used during the data analysis is offered in Appendix 7.

The process of the focus group data analysis was based on the same method, however, the difference was that the focus group interview was not audiotaped and there was no need for transcripts; besides, comparatively less information was collected with more concrete answers to compare with the data gained from the key participants. The findings from the focus group interview are not included in the main findings but presented in Appendix 8.

As the main themes were predefined from the theory and the sub-themes were derived from the interview data, the analysis can be considered both deductive and inductive (Figure 3.1).

*Figure 3.1* The process of data analysis



### **3.8 Reliability and Validity**

Validity and reliability are important quality measures of every research but in quantitative and qualitative studies they are addressed differently. The main question that arises regarding qualitative study is how to make sure that the conclusions made by the researcher are valid and trustworthy (Przeworski and Salomon, 1988 as cited in Maxwell, 2013, pp. 121-122). To increase trustworthiness of the results Maxwell suggested to develop specific strategical solutions useful for minimizing validity threats within the context of a particular study (2013, p. 124). The strategies applied within the presented study are described through the alternative equivalent concepts to be used in qualitative studies, as proposed by different scholars: credibility (as preferable to internal validity), transferability (as preferable to external validity/generalizability), dependability (as preferable to reliability) and confirmability (as preferable to objectivity) (Bryman, 2004, p. 273, Shenton, 2004, p. 64).

**Credibility/internal validity** - To ensure the accuracy of participants' accounts and not to miss essential details, the interviews were audiotaped. Together with audio records, written notes were made to maintain those aspects of the interviews, which could not be recalled only by the audio records (e.g. some metalinguistic aspects of the interview). Furthermore, the transcripts were checked several times. The fact that the interviews with deaf respondents were mediated by the sign language interpreter and I did not have direct access to the exact words of the respondents, could cause a threat to the accuracy of the participants' accounts that can be related to the descriptive validity threat, the category identified by Maxwell (1992, p.285); to minimize this threat, the sign language interpreter was asked to use a maximally precise translation and authentic words of the participants. An accurate understanding of participants' perspectives is central to the qualitative research; however, interpretive studies are never fully free from the investigator's perspective. To minimize threats to the so called interpretive validity, during the interviews I often checked whether the participants' statements and viewpoints were properly understood by me.

A researcher's reactivity creates another threat to the internal validity as each individual researcher might differently influence the course of study. I tried to avoid the leading questions, to give much freedom to the participants. Besides, I tried to establish a good rapport and stimulate the participants to honestly express their perspectives. In addition, the participants' quotes were extensively used in the findings to enable the reader to judge to what extent the interpretations made by me comply with the participants' authentic statements. Besides, I tried to be precise while translating the participants' quotes from Georgian to English. Furthermore, I tried to collect maximally rich data about the phenomenon and its context from various sources. Thus, the data were triangulated as *"this strategy reduces the risk of chance associations and of systematic biases due to specific methods, and allows a better assessment of the generality of the explanations that one develops"* (Maxwell, 2013, p. 128). Within the study, the learners and teachers' accounts regarding the phenomenon complement each other and these data are supplemented with the ones from the focused group interview.

Regarding theoretical validity, which refers to the validity of concepts applied to the phenomenon and to the postulates representing the relationships among these concepts (Maxwell, 1992, p. 291), it is more difficult to ensure because of its conceptual and more abstract nature. Yet, some strategies are helpful. Primarily, it is noteworthy that different

scholars have used the theoretical model the study is based on as their framework in the field of education. Further, to ensure the common understanding of the applied concepts by all the parties (researcher, participants and readers), I searched in the literature for different definitions of these concepts and referred to the most commonly used ones. Besides, I operationalized these concepts in the context. As an input to validity, the pilot study was a means to ensure that the research instrument provided relevant information.

**Transferability/generalizability** - Based on its qualitative nature, the presented study was not intended to be generalized to a larger population, to all deaf learners and all vocational teachers. Regarding generalizability in qualitative research, Maxwell suggested to figure out to what extent the results could be “generalized” within the community, group, or setting of the study to the persons, events and settings that were not directly investigated (1992, p. 294). My expectation was that the results and recommendations emerged from the findings would be possible to relate and transfer to a similar group of deaf students and vocational education teachers in a similar setting. To increase transferability of the results, firstly a tried to precisely define all the sampling criteria. Secondly, the description of the study participants and the site is provided to enable the readers to judge whether the results are applicable and transferable to a similar group in a similar context.

**Dependability/Reliability**- Reliability is a relative concept in qualitative research, where the flow of procedures, results and their interpretations are under the subjective influence of the study participants and the researcher, and thus cannot be fully replicated. Besides, “*the interview is a social situation and inherently involves a relationship between the interviewer and the informant*” (Briggs, 1986, Mishler, 1986 as cited in Maxwell, 1992, p. 295). Thus, each interview represents a unique experience that cannot be exactly reproduced. This uniqueness was especially evident in the interviews with deaf respondents, as each participant required individually altered probes, explanations and even spontaneous sub-questions. This fact can be viewed as a threat to reliability/dependability. To increase dependability in qualitative research, Yin suggested to make the steps operational as much as possible by precisely documenting the undertaken procedures (2014, p.49). With this concern in mind, I tried to carefully document the fieldwork details in the study report.

**Confirmability/objectivity** - “*The concept of confirmability is the qualitative investigator’s comparable concern to objectivity*” (Shenton, 2004, p. 72). As was stressed within the chapter, it is not possible to achieve absolute objectivity in qualitative study, which is

constructivist by its nature. To decrease the personal influence and bias during the whole course of investigation, I tried to be reflexive and conscious about the personal influences. Besides, a precise description of the methodological part with the recognition of its shortcomings is provided. Furthermore, the gathering of data about the phenomenon through different sources and research methods - the so called triangulation - was helpful to maximally safeguard its confirmability.

### 3.9 Ethical Considerations

Representing one of the branches of philosophy, ethics concerns proper ways of acting towards people, and suggests moral principles and guidelines for the right ethical choices (Gall, 2007, p. 68). According to Yin, “*specific ethical considerations arise for all research involving human subjects*” (2014, p. 77). As research in social sciences, particularly in education, always relates to humans, ethical considerations become vital. By emphasizing and addressing ethical concerns, educational researcher show respect for research participants, protects them from possible harm and honors their contribution (Gall, 2007, p. 69).

**Permission to conduct the study** – As was described in the section of “Gaining Access to the Data,” a permission to conduct the study was taken from different legal authorities. Besides an official permission, an agreement from the field authorities was important to ensure that the study was ethically planned. For instance, the NSD requested to get consent from the participating students about the fact that the interviews with vocational education teachers would touch them to some extent as well, that was essential aspect to be considered.

**Informed Consent** – I made an effort to ensure that the information about the study was fully clear for the participants. Even after receiving preliminary agreements of participation and before conducting the interviews, I provided an additional explanation about the study. The participants were informed that their participation was voluntary and that they had the right to withdraw from the research at any stage. Before signing the consent letters, the participants had an opportunity to check the interview guide. A permission to audiotape the interviews was taken from the participants.

**Confidentiality and privacy** – As in a qualitative interview the researcher is personally involved and has “body-contact” (Maxwell, 2013, p. 90) with the participants, the process loses its anonymity. However, the researcher can reimburse it via protecting the participants’

confidentiality. Even though the participants were not against disclosing their names in the report, the real names are substituted by the invented names. In addition, the minimum information is provided about the participants to protect them from the possible identification. Further the consent was taken from the sign language interpreter to maintain the confidentiality of all the information available to her from the process of interviews. I took care to protect all the data gained from the interviews (audio records, written notes) and the information regarding the participants in strict privacy.

**Honoring participants contributions** - The interviews were conducted at the most convenient time for the participants. The input made by each participant was appreciated verbally after the interviews. Besides, written note was send by e-mail to the principal of the college acknowledging support provided by the managerial staff and the participants.

**The language of the report** – According to Creswell, “*an equally important aspect of ethical research practice resides in the writing and report phase of inquiry*” (2012, p. 279).

Therefore, I tried to not to use unethical statement while reporting the study, statements.

### **3.10 Limitations of the study**

One of the limitations of the study was the inability to establish direct communication with deaf participants. I did not have a direct access to deaf respondents’ answers, their words; besides, I did not have a reach on all the changes the interpreter had to make during the interviews to help deaf respondents understand a particular question. In addition, because of the differences between the Georgian spoken and sign languages and some vocabulary limitations of the latter, the interviews required the changes of wording. Thus, I had less control on the whole interview process with deaf respondents compared to that with vocational teachers.

Another limitation was the inability to personally observe the teaching and learning process and to have a more complete picture of the process as it was investigated retrospectively.

Furthermore, to gain a detailed picture of the phenomenon, it would be important to also include the participants from the regions, but the time limits of the study and the lack of experience to deal with a large amount of data did not allow it.

# 4 Presentation of the Findings

## 4.1 Introduction

The aim of the study is the investigation of teaching and learning practice of deaf students in an ordinary vocational education setting in Georgia. The presented findings are the descriptions of the vocational education teachers and deaf learners' accounts, obtained through the qualitative semi-structured interview them. The findings are grouped according to important categories of the theory, which are related to the sub-questions of the study. Because the challenges, resources and possibilities enhance the understanding of mediation between teaching and learning, the respective sub-question is not presented as a separate theme but integrated under the theme of mediation.

The chapter has the following structure: Accounts of vocational education teachers and deaf learners are presented separately under the main themes to highlight responses from the both participant groups. Sub-themes presented under each participant group somewhat defer based on what has emerged from the data. The pseudonyms assigned to the participants are abbreviated, for instance: Teacher Alfa (TA), Learner Alfa (LA). A map of themes and sub-themes is presented in Appendix 9.

## 4.2 Theme 1 - Teaching and Learning Objectives

The theme contains data about vocational education teachers and deaf learners' objectives, about desirable outcomes participants strived to achieve as the result of teaching and learning. As teachers were asked to make their definition of what inclusion of deaf student in vocational education means for them, the theme additionally includes teachers' responses on this question.

### 4.2.1 Vocational Education Teachers

#### Understanding of Inclusion

Based on teachers' answers, they consider inclusion of deaf learner in vocational education as a participation in a learning process, in a collective processes of learning acquisition. In

addition, participants connected inclusion with the employment and social participation. Quotations below better exemplifies participants' responses:

*“[inclusion] means integration into the collective... receiving vocational education and in the same way as other individuals taking part in work place in the future... inclusion in learning process intends involvement in a regular, collective vocational acquisition process” (TA);*

*“Inclusion of deaf individual to me means that deaf individual who has special needs is included and well adapted into the society and also receives education; in our case, this concrete vocation will help him to be employed. (TB);*

*“Inclusion implies participation in learning process and generally in life to feel oneself as an equal member and valued person“ (TG).*

### **Teachers' Objectives**

Regarding teaching objectives, all interviewed teachers stated that they had the same teaching objective with deaf learners as they had with all other students, oriented towards achieving all competences intended by the vocational program and making them competitive in an open market after the graduation.

TA stated the following: *“I wanted to give him [LA] the same education, which is intended for all other students... this is my responsibility and I am receiving salary for this;”* TA considers teaching of deaf student as her direct responsibility.

TB indicated: *“I wanted to achieve the same outcomes I have with all other students, to make student acquire the profession completely... to achieve the same competences as others supposed to achieve;”*

According to TG: *“I wanted to make this person [LG] competitive in our environment... It is really a big responsibility, to prepare this student in a way that first of all makes him feel confident that he can compete with other professionals of the field.”* To TG, teaching deaf student associated with the high responsibility.

### **Preconditions of Teaching**

While discussing teaching objectives, participants stated existence of the particular emotional conditions related with teaching of deaf students. Possible communication difficulties with deaf student, presence of sign language interpreter during the lessons, and possible

communication and interactional troubles between deaf and hearing students, produced some anxiety in teachers.

TA stated: *“I had fear of communication; how to understand his [deaf student’s] desires or how to include him in learning process or how to pass theoretical information.”*

According to TB: *“At the beginning I had fear when I heard that I will have a deaf student with interpreter in the group; I had some complex; imagine how it is, when you are lecturing and someone in parallel uses signs, this could disturb my attention, yes, when you watch when someone moves hands; I thought that during the lessons not only my but the students attention also could be disturbed”.*

TG was concerned that deaf student and hearing peers could have interaction problems and to promote good peer relationship he informed students about a deaf student beforehand:

*“I considered it useful to tell to students that they will have a peer with hearing impairment together with sign language interpreter and asked them to respect him. I told them that this guy does not have anything to be sorry about; that he is generally the same as they are with the one difference that he has hearing problems, but he lives with full life as they do” (TG).*

## **4.2.2 Deaf Learners**

### **Learners’ Objectives**

The learning objective for all three students was connected with the acquisition of vocational qualification in the chosen field and with obtaining official diploma. The latter was named by the participants as the essential motivational factor. Based on the students’ answers, diploma will help them to find a job and in have good income after the graduation. Besides, LA and LG stressed the strong affection towards the chosen profession and the desire to strengthen their knowledge in it. Quotations below represent the learners’ answers:

*“My aim was to learn chef’s vocation completely, love this profession, I like to do it and I want to be employed... with the diploma I can find a job and it would be more profitable” (LA);*

*“I decide to study for moving forward, for receiving diploma, for finding job... with diploma I will have more high salary ” (LB);*



*“I wanted to study computer because I love it very much, this is my calling ... I thought maybe then I can find a job ... I am grownup enough to work and I want to work in this field because I love it so much” (LG).*

## **4.3 Theme 2 - Mediation of Teaching and Learning**

The theme contains information about the teaching-learning mediating means - communication and other teaching means. Besides, challenges and resources as well as applied solutions are presented under the theme.

### **4.3.1 Vocational Education Teachers**

#### **The Means of Communication**

All interviewed teachers reported that they had direct communication with deaf students, through body language/gesticulations, few signs and even through written communication.

TA stated that she learnt few signs and fingerspelling and included them in direct communication with her student. *“I was feeling that I have direct communication with the students through body language, few signs, fingerspelling” (TA).*

According to TB, sometimes she used written communication with her deaf student by writing short and small instructions with two-three words.

*“When the interpreter was not during the lesson, this did not create any problem to me. When it was difficult situation and LB did not understand what I told to him, I wrote on the paper simple phrases, with two-three words; we have written communication too.”*

*“I mostly used body language, gesticulations which I thought was easy for the student to understand, without any troubles” (TG).*

Based on participants' answers, sign language interpreters were mainly involved in translating a content of the lectures, but not in teachers and deaf students' or classmates' interaction.

According to teachers, some of deaf learners' classmates learnt few basic signs through which they were able to communicate with deaf student.

#### **Ease of Communication**

All participants stated that they did not have significant communication troubles with deaf learners and in most cases they used to understand each other. TA stated: *“We [TA and LA] almost did not have any challenge or problem; even while talking about private topics we were able to do this without interpreter in minimal dosages; I can’t recall moment, when we could not understand each other.”*

Similar was TB’s response: *“Based on fact that personally I did not have any problems, I was quite satisfied with the communication we [TB and LB] had.”*

In addition, all participants mentioned the existence of positive relationships between deaf students and their classmates without any communication troubles. TA stated that deaf student’s and his classmates’ interaction went beyond the classroom and they communicated through “Facebook” as well. TG evaluated peer interaction as positive and mentioned that deaf student adapted to the group very soon.

Nonetheless teachers articulated that they could communicate with students directly without problems, TB and TG mentioned existence of some difficult communicational situations, when deaf learner could not understand their messages. In such situations TB used written communication and TB mostly applied to interpreter’s help.

### **Individual Approach**

All interviewed teachers stated that they did not have documented individual educational plans (IEP) for deaf students. According to the teachers, deaf students had the similar learning goals and demands as other students as they were able to follow the general curriculum.

*“I did not have different demands, also I did not make individual program, and he [LA] received the same demands as other students had... besides, I did not want to make this student to feel different from others while having individual education plan.” (TA).*

Based on teachers’ answers, they used individual approach to deaf learners. TA stated: *“We don’t have individual education plans, but approach to student is individual, approach is individual to every student, to every person... everyone has different skills, even sisters are different, everyone requires own approach.”*

To make teaching individually suitable, teachers used a personal assessment. Observation of student’s performance was named as the main means used by teachers to figure out what is difficult for a student, what student is able to do, and what strategies would be useful.

TA stated: *“teacher based on own observation can discover in a student those abilities that would be helpful in acquiring vocation; if we show interest in a person, we will discover what difficulties person has and what can do... it’s possible through attentiveness and care.”*

According to TB, observation of task performance gave her possibility to understand TB’s abilities and define what type of additional support the student needed.

*“When I give a task and see how student does it, I can understand what abilities student has, which student needs additional support, repetition of a task...” (TB).*

Similarly, TG mentioned that he used observation of the student. *“At the beginning, around one months, I was observing him [LG] very carefully, I was afraid not to miss something, however the process showed that the student did not have any problem to follow the process and then I also adjusted self to him.” (TG).*

## **Examination Procedures**

Assessment of students’ academic achievements was based on the intermediate tests (mostly written) and on final exam. During written tests teachers used open and close questions and/or several optional answers students had to choose from. Practical part of exams required from students to demonstrate acquired vocational skills and was held with the help of the interpreter. According to respondents, there was no need to adapt written tests and exams.

TA stated that despite some troubles, LA managed to overcome a minimal barrier of exams. *“There were particular difficulties, flaws, but the student passed the barrier and not in a bad way” (TA).*

According to TB, during the learning process deaf student like others had possibility to practice particular tasks; consequently he did not have a problem to pass an exam; besides, the student was familiar with possible exam questions and answers: *“He had to answer open and close questions and during the learning process these commands and topics was done very many times, and he was familiar with them. It was within his abilities and he did not need any adaptation of the exam tests” (TB).*

TG told that during written tests his deaf student only needed some clarifications of particular questions but not adaptation of exam content /questions: *“I did not simplify anything, he did not had need of it; by the way we had discussion to simplify exams, make different test, but I was driven by the desire of not making the student feel self as different from others” (TB).*

## Challenges of Teaching

According to the participants, the different challenges were raised during the teaching-learning process:

**Teaching theoretical part** - Big part of challenges named by the participants were related with conveying theoretical information and making deaf learners to understand it.

TA stated: *“Our teaching of theory is somehow weak ... in theoretical part it is very difficult to point, for example color, as it is in practice, in theory there are more difficulties because I don't know their [deaf individuals'] language.”*

According to the teachers, learning of theory requires from students to read texts and make individual written notes; however, latter appeared difficult for deaf learners.

As was stated by TA, her deaf student had difficulty of reading ordinary texts but the time limitations did not allow her to adapt text every time: *“the time does not allow us to adapt texts, to reduce them”* (TA). In addition, TA mentioned that besides lack of sufficient time to make own notes during lectures (as LA had to follow interpreter), the student also had limited writing skills. Similarly, TB mentioned her deaf student's difficulties regarding writing and reading: *“student did not know Georgian letters well.”*

According to TG: *“besides practice, knowledge comes through reading; students often need to make own notes... but he [LG] had troubles with it and sometimes interpreter was making some notes instead of him.”*

Another challenge of teaching and learning of theory was connected with explaining new words and terms. According to TG, computer science has lots of terms, which are often complicated to understand even for hearing students. There are also many professional jargons. Sometimes TG had to use terms in three languages - Georgian, Russian and English. According to TB, her deaf student often only visually memorized some written terms in computer, without their comprehension. In contrast to other participants, TA stated that vocation she teaches, cooking, is very close to everyday life and more or less familiar to everyone, thus her deaf students did not have problem to understand terms. *“In our profession we have objects, words, food, which you are dealing in everyday life, thus explaining terms in our vocation is not difficult”* (TA).

According to TG, the problem with teaching theory was doubled as the sign language interpreter was not familiar with the content of the particular vocational program and of its terms. *“I had to simplify content and make explanations for the interpreter, to make her able to pass information to student... there are some terms that I can’t explain simply; to be honest I had serious troubles in certain moments; imagine how it’s difficult when you have to explain something to someone, who then has to pass it to someone else without understanding what I have told.”* (TG).

**Group discussions** –TG stated his deaf learner’s troubles to participate in classroom discussions. When there was a group conversations it was difficult to translate all participants’ responses. Interpreter had to translate selectively, mostly teacher’s speech and/or teacher sometimes pointed what is necessary to translate. *“When it was discussion interpreter was in bad situation, because it was hard to translate everything and she mostly tried to translate my...group discussion was challenging.”* (TG).

**Following several procedures at time** – TA and TG stated deaf learners’ troubles to follow visual material and/or teacher’s demonstrations and at the same time to watch the interpreter who was translating teacher’s explanations. According to TA: *“interpreter is translating, showing, but he may not follow, because attention is divided ... he had to watch.”* Similarly, TG stated: *“when I showed videos by projector, or pictures, in this case he [LG] had some troubles because at the same time he had to look at the interpreter, and also to look what I am demonstrating.”*

**Distribution of attention** – TB and TG stated the challenge associated with distributing own attention between deaf learner and all other students as sometimes deaf students required additional support. *“You could not pay special attention to one, I had to distribute attention to everyone equally”* (TB). Similarly, TG stated: *“I had trouble how to pay attention to him [LG] in a way that did not make others think that something is happening, not to make them think that LG was deficient in doing or learning something, and also I did not want to reduce attention to the whole group; so, there was some difficulties.”*

**Demand of the vocational program** – TG underlined a specific challenge associated with teaching of a particular vocational program. According to him, diagnostics in computers partly depends on auditory signals/noises, which was not accessible for LG because of hearing loss. Regarding this issue TG could not find any solution. He noted: *“only thing I could do just to tell that there are such auditory signals... but unfortunately I could not do*

*anything else, could not help him. To be honest, I did not know what to do; of course he can diagnose without it, it is not catastrophe, it is just desirable to do.”*

### **Searching for Suitable Teaching Strategies**

According to the participants, the most suitable strategies for deaf learners were developed based on their observation of student's performance, through experience and practical interaction with the student, trial and error methods, and spontaneous discoveries.

*“When I guessed what type of learner he is, the strategies were coming step-by step during the teaching; practice showed how to instruct him” (TB).*

TG stated that in searching teaching strategies he mostly was depend on his intuition: *“To be honest I didn't read any literature on how to teach deaf, but I think that intuition helped me, many things was coming during the working with the student, some of them came spontaneously ...we did not have any defined frames, we could use improvisation and it brought results.”*

### **The Most Effective Teaching Strategies**

The following strategies were named by the participants as the most effective and beneficial for teaching and learning which allowed students to understand task and repeat it after the teachers.

**Modeling/demonstrating and practicing-** All three teachers named visual presentation-demonstration and modeling of procedures as the most effective ones.

*“I mainly presented procedures, I used demonstration and he could repeat it after me” (TA).*

TB stated: *“the most effective was to do something by myself, to demonstrate it and to give possibility to him [LB] to do the same; demonstration was the most effective.”* TB mentioned that practical part of the vocational program is easier to teach as it gives possibility for modeling, to make student watch and repeat after you and practice himself. Similarly, TG specified: *“demonstration was very helpful, when you are showing something he can do it and understand it easily; it is the most effective one, demonstration is the most ideal.”*

All inquired teachers stated that in case of need they provided individual help to a deaf student that mostly happened during the practical part of the program.

**Adapting language** – TA and TB used to simplify questions and instructions to make them more understandable for deaf students. TA used to adapt her language by altering words, their order, reformulating and changing the level of difficulties of questions. *“You can change the question, put it in a way to make more understandable, use more simple language, sometimes there are order of words which is not understandable to everyone; I used to simplify questions with more simple language” (TA).*

TB used to simplify written instructions. *“When several times I wrote to him complicated instructions I guessed that student can’t understand them, then I started to write simpler and shorter ones with only necessary key words” (TB).* According to TB, written instructions was especially helpful when the sign language interpreter was not available. Also she used to reduce the amount of instructions - from the several instructions written on a board, LB had to copy only essential ones pointed by the teacher.

**Sequencing** – TA and TG elaborated a special strategy of introducing topic. As they figured out that it was difficult for the deaf learner to follow teacher’s explanation/demonstration of procedures and interpreter’s translation in parallel, they started to sequence actions in time.

*“First I used to introduce and explain, then to demonstrate, it happened at different times explanation and then demonstration: first I was explaining, interpreter translated and after I was demonstrating and plus explaining once again.” (TA).*

*“I started to make annotation of what I am going to do beforehand for the whole audience; I did not use it before, but I started to do it because of LG; now he had information beforehand and then could watch me without disturbing his attention and be fully involved in the process. This was really very helpful for others too, as some other students also had troubles to dived attention between verbal explanations and demonstrations” (LG).*

**Visual aids** – TA mentioned that she often used visual materials, different pictures and videos while teaching theoretical part of the program. Even this was not specially planned for deaf student, it appeared very helpful to him to understand content. TA also considered very useful copies of reading materials she used to prepare for her deaf student.

**Progress monitoring and feedback** –TB stated that she elaborated special method to monitor and assess LB’s ongoing progress at the end of each week. *“On Fridays I was writing to him some commands, tasks we had learnt during the week and he had to sit and do them without interpreter, I wanted to be sure that he could do it without any help; by this I could know what he learnt and where he need help, he could know what he had achieved” (TB).*

TA told that periodically with the help of sign language interpreter she had individual meetings with LA. *“I talked with him about learning, pointed how his is learning, in which quality” (TA).*

**Placement arrangement** – According to the interviewed teachers, all of them provided special placement for deaf students in the classroom. Teachers considered beneficial for both, selves and deaf students to place latter at the front desks. TA stated: *“I have squared arrangement of desks; from the very beginning I placed LA in a way that he could see me, the projector and interpreter; he was sitting in front of me, the interpreter was at the right side from me.”* TB reflected how her perception of student’s placement changed during the first week: *“I made mistake at the beginning, I thought if he was deaf and had special needs, I wanted... I gave him my computer, but I noted that because of it he could not be able to adapt to a group ...and when I noted it, I placed him as others, but close to me” (TB).*

TG also placed his deaf student at the front desk to ensure sufficient visual contact between him and the student, better accessibility of a board and prevent disturbance of the student’s attention. TG stated: *“LG was sitting in front of me and I could have more visual contact with him... You know, I didn’t want him to sit back even because not to make his attention disturbed by watching other students... only I and board was in front of him. I was standing next to interpreter and when I was talking he could watch both, me and interpreter.”*

**Peer support** – TB and TD used peers as supporters during the teaching and learning. Teachers mentioned that this type of support was very useful and practical for everyone.

*“I placed advanced student with him [LB], who as I noted very easily understood material; one time was enough for that student to understand and he was supporting LB during the learning process” (TB).*

According to TG, his deaf student always had nearby classmate who helped him. When the teacher was lecturing in front of the class. Peer could make some necessary notes and explanations for deaf learner. *“Always was sitting next to LG classmate who had function of supporter in case of need, because when I was in front of the class and LG was sitting ... and often classmate who was sitting next to him [LG] was making notes for him” (TG).*

## **Support from the Community Members**

**Support from sign language interpreter** - All interviewed teachers stressed the importance of the sign language interpreting service.



According to TA, the role of interpreter was critical to include student in the learning process and to pass to the student oral information. *“Interpreter is the best support, otherwise we could not get our results... without interpreter it is impossible to teach theoretical part” (TA).*

The type and amount of support provided by the interpreter varied from case to case.

According to TA, interpreter sometimes was involved in preparing printed material for her deaf student. *“The interpreter was very active lady, she was involved even in preparation of material, help us with copying” (TA).*

Similarly, besides interpreting, additional duties such as making written notes for the student were mentioned by TG: *“Interpreter made notes of those explanations I made to all students during the lessons.”*

Based on participants’ words, interpreters mainly were necessary in teaching and learning of the theoretical part of the programs and had less duties during the practical lessons.

TB mentioned that she needed sign language interpreter mostly at the beginning of the course, as the interpreter used to explain written learning material to a student. TB stated: *“of course I needed help from the interpreter at the beginning, but at the end during practical part, which does not include any theory and has only practice, during this process interpreter was not necessary.”* Based on TG, the sign language interpreter was needed when he had to explain something: *“When it required explanations only in these cases interpreter of course was necessary. Not so much during the practical part” (TG).*

**Support from other professionals** – According to TA, she had technical support from inclusive education specialists and assistant. In case of necessity, they helped teacher to prepare copies of reading materials for her deaf student. As was stated by TB and TG, they did not use the support service existing in the college. *“I did not have need of any support from assistant and specialist” (TB); “honestly only help I had was from interpreter and nothing more” (TG).*

### **4.3.2 Deaf Learners**

#### **The Means of Communication**

According to LA and LG they mostly directly communicated with teachers and peers without help of sign language interpreter.

LA stated: *“I had a direct communication with teacher, she tried hardly to interact with me; sometimes we had a direct communication during the theory as well.”* Similarly, LG reported: *“I had a direct communication with the teacher... interpreter was not involved in the communication, no, she only helped me with lessons but not with interactions... I did not use interpreter with peers, I tried to communicate myself.”*

While directly communicating with teachers, students mostly used particular signs they thought teachers could understand. LA besides the sign language could also use a lip reading with his teacher. According to the interviewed learners, teachers mostly used gesticulations and sometimes tried to communicate and pass information in a written form. Communication between deaf and hearing peers was mainly based on body language and basic signs as some of the groupmates of LA and LG learnt few signs.

*“I tried to communicate with signs with peers and they also tried to use gesticulations and some signs, I did not understand fully what they said, but sometimes I could guess.”* (LG).

Differently from other two learners, LB mentioned that he was mostly communicated with the help of interpreter who was always nearby.

### **Communication Difficulties**

Deaf learners stated particular communication difficulties. Written communication appeared difficult for deaf learners. LB stated: *“I hardly understand writings, I don't know words well and can't read.”*

Similarly, LG noted: *“Teacher used to write some instructions, but I can't understand writings, I only know signs and understand through signs but not through reading written ones; maybe some words are familiar to me, but I cannot understand them completely.”*

The interviewed students expressed their strong desire for teachers know signs that would be helpful for communication and generally for their learning. According to LA, *“so, somehow we [teacher and me] used to understand each other... but would be better if teacher new signs.* Likewise LB stated: *“teacher could know sign language, I tried to teach her some signs, and I asked her to learn some signs to be able to help me during learning and to explain material.”* Besides, LB expressed his concern with peer interaction: *“I can't say that I have interaction and communication with peers; from them I had only one student who tried to establish contact with me and with whom I had interaction. I had big hardships without sign language interpreter;”*

## Challenges of Learning

Participants listed several challenges they faced during the learning process.

**Learning theoretical part** - Theoretical part of the program was considered as the most challenging one by the interviewed learners. LA stated: *“I can’t follow the theoretical part for a sufficient period, it easily makes me tired.”* Theoretical part requiring from learners to read texts/written materials and also to make own written notes, caused troubles. *“I don’t know well the words, reading... to me was difficult to learn it [theory]”* (LB). Similarly, LG stated: *“reading words, texts is the most difficult to me; I had big troubles to read and understand texts; maybe if texts were smaller and easier I could read; I can’t understand large texts”* (LG). According to LA, teacher stimulated him to make written notes during the theoretical part, however it was difficult to him to write. Likewise, LG mentioned that he could not make written notes of the received information as writing creates big challenge to him: *“writing is the most difficult, most demanding for us [deaf] ...”* (LG).

Another difficulties identified by LB and LG that also were connected with theoretical part was comprehension of words and terms. LB stated that he lacks lots of words in his vocabulary even in sign language. *“I don’t know many words, there were many words that I don’t know in written form and even I don’t know corresponding signs; I could learn written material by heart, by memorizing it, but have troubles to understand it”* (LB).

**Written exams** - Another challenge stressed by LG was tests/examinations of theoretical part, which also connected with writing and reading abilities and understanding of terms. Nonetheless LG passed all exams, he evaluated them as troubled ones. *“There was not interpreter during exams, it wasn’t allowed...I used to memorize small texts but still had lots of mistake, but my friend helped me during exams, topics was difficult to me, and writing was difficult too; my friend dictated which answer to select and when I had to write something he showed to me and I copied”* (LG). Regarding exams, LB also mentioned that he could pass exams based on beforehand prepared memorized materials.

## Preferred Teaching Strategies

Participants defined several strategies applied by the vocational education teachers that was supportive for their learning.

**Demonstration and modeling** - Detailed demonstration of all steps of the activity/procedures and visualization of all aspects of the task was considered as the most beneficial strategy for the learning by the all interviewed participants. LA stated: *“teacher was showing and making visible everything, all ingredients which we had to use to prepare dish and even she was writing some information such as how many amount we have to use... even the day before she [teacher] used to demonstrate task and its ingredients.”* According to LB: *“When I did not understand something written or verbal, teacher showed it to me practically in computer and I could understand.”* Similarly, LG stated: *“During the practical part I had possibility to watch everything, teacher demonstrated a task and it was easy to me... he [teacher] demonstrated what to take out and put in and it made learning easier” (LG).*

**Practicing** – Practicing and personally experiencing process was favored by the participants. LA stated that he preferred learning by doing, by touching and being in contact with the real objects/materials: *“practically doing helps me to remember things, when I can try and do thing by myself, the most pleasant is to be in contact, to touch real things, and this is more helpful and pleasant than watching only photos. I preferred this.”*

Similarly, LG stated that he loved practical part mostly as it allowed to watch the process and personally practiced it. *“To us [deaf] the most accessible are practical things” (LG).*

**Slow pace** –LG stressed the importance of slow pace of teaching. He stated: *“I prefer that everything is explained slowly and demonstrated slowly, this is acceptable to me and helps to understand better, I cannot learn in fast... I knew everything what he [teacher] explained because he taught slowly” (LG).*

**Monitoring and Feedback** – Having teachers’ feedback was named as very important by the participants. LA stated that any type of feedback is acceptable to him, as based on feedback he learns. *“I could take everything, even reprimand to develop self, the feedback is essential, through feedback I can learn and I know how to act.” (LA).* Besides, he mentioned that teacher used to check every next day, what he had learnt. Importance of feedback was mentioned by LB as well; periodical assessment of his performance and feedback on it, helped him to recall and figure out what was learnt. Additionally, LB stated that during the lessons, the teacher used to come and give the feedback on what was done well and where he made mistake. According to LG, his teacher always provided feedback with the help of interpreter. *“Teacher together with the interpreter always told me what was achieved, how I did things and I always knew where I had succeeded” (LG).*

**Discipline** - LA mentioned that existence of the discipline in the classroom was beneficial to him as helped to be more organized. *“My teacher was strict and she favored discipline very much, and this was very good for me as I became more organized in learning” (LA).*

**Placement** – All the participants mentioned that sitting close to the teacher, at the front desks was convenient as teacher’s help was mainly accessible. LB stated: *“I was sitting close to the teacher, because if I did not understand something I was close and I could tell her.”*

### **Support from the Community Members**

**Support from sign language interpreter** - The essential role of sign language interpreting was stressed by the all interviewed learners, considering this service as the necessary for their learning. According to LA, the fact that he could have interpreter during the learning was determining factor to enter the vocational college. Additionally LA stated: *“I think that during the learning interpreter is necessary, every deaf must have interpreter...of course to establish relationship is easier and we [deaf] can, but to understand information completely is harder without interpreter, without interpreter it is not possible.”*

According to LB, he had troubles without interpreter. *“It was hard to me without interpreter, interpreter was always with me” (LB).* According to LB, besides interpreting lectures, interpreter helped him to comprehend written contents and helped during the preparation for the exams. Similarly to other students, LG stressed the importance of the interpreter and mentioned that support provided by the interpreter was the biggest support that made him able to learn. *“Without interpreter I could not stay there [at the college], I could not learn ... interpreter was always nearby...Interpreter’s help is the biggest help. Interpreter helped me to better understand even practical part...I am so thankful to interpreter” (LG).*

**Support from other professionals** –Interviewed learners mentioned that they did not need any special help and did not receive any support from the other professionals of the college. *“We [LA and specialists] sometimes interact with each other, knew each other, but I did not have such problems to necessitate any special help from them” (LA).*

*“I did not need help from others, I could do everything... I was not receiving any support from the specialists, no...” (LG).*

**Peer Support** –LA stated: *“My groupmates helped me, they always were nearby and were explaining things very clearly.”*

Similarly LG mentioned support provided by peers. *“I always had support from friends”* (LG). According to him, one of his classmates always was nearby and provided support in case of need especially during the theoretical lessons.

**Support from parents** - LB and LG mentioned the support provided by the mothers. Latter helped learners at home to understand and memorize texts and helped during their preparation for the written examinations. LG mentioned that nonetheless his mother does not know sign language sufficiently, he can apply lip-reading with her.

## 4.4 Theme 3 - The Outcomes of Teaching and Learning

The theme presents participants’ perspectives on what was achieved as the result of the teaching and learning.

### 4.4.1 Vocational Education Teachers

#### Vocational Competences

Based on teachers’ evaluation, all three students had achieved all competences intended by the vocational program; the all three students managed to pass established criteria for the obtaining qualification and diploma. Participants reported their strong satisfaction from the achievements and mentioned that they did not expect right from the beginning that student will achieve so high results. Quotations below demonstrate participants’ answers:

*“Student had exceeded all my expectations; I discovered in him [TA] . . . leader, I saw his abilities; I did not think that he will achieve the level he reached... he can work as the assistant of a chef; further progression in our field is the matter of permanent practice and experience (TA);*

*“I did not expect from the beginning such results; yes, we had achieved more, much more; he [TB] reached all the results, now he is in a mean level; he has enough knowledge and competences for the employment; he is able to work at any design studios” (TB);*

*“From 40 students I had this year, I can say that LG is within the best fifteen and this is result of his motivation and strong desire, he gained enough knowledge to be employed” (TG);*

## **Employment Possibilities**

Nonetheless, all participants were satisfied by the learning outcomes of their deaf students, teachers shared some concerns regarding deaf students' employment stating that deafness itself could cause a problem. TB stated: *"We prepare personnel which then go to the field for a practice and if the employer likes the student leaves him/her and gives a job, but, of course this employer will choose who?"* Similar point was made by TG: *"Only competences might not be enough, unfortunately, this is not enough condition; there is something that creates problems in these [deaf] children' employment."*

## **Self-realization and Increased Interest**

TA and TG considered as an important outcome their students' increased interest towards the chosen field and desire of further learning and professional development.

*"He [LA] wanted to continue education and he did it... I know that it is good to him, he will increase his qualification further"* (TA); TG stated: *"This student [LG] had unexplained desire to learn and he managed realization of own desire; based on his effort and motivation he had overcome many other students... he achieved self-affirmation and his interest still continues, obviously he will continue moving forward, I see this."*

## **Influence on Other Students**

According to TA and TG receiving education together with deaf peer had positive impact on hearing students as they learnt how to interact with deaf individuals, with someone who is different from them, and learnt how to collaborate during the learning process. Interaction with deaf students made hearing peers more acquainted with sign language and deaf individuals' needs and abilities.

TA stressed the relationship developed between deaf and hearing students: *"Friendship established between people with different abilities is a big thing. I consider it as the positive effect, I am sure it is."* According to TG: *"It was good experience for the whole group ... other students saw that deafness is not something disastrous and if someone has health problems it is not the end of life."*

## **Influence on Teachers**

All Participants stressed the positive influence of teaching deaf students on own professional development. According to teachers, they acquired more confidence in teaching and interacting with deaf students.

*“Now I have experience of interaction and teaching. I know how to approach and how to relate; honestly I don’t know fully sign language, but know how to interact. I can use this experience with my new deaf students, currently I have three deaf students (TA);* Similar was TB’s response: *“Now I have experience of relating and interacting with deaf student and if I have deaf student I will not have any problems at all.”*

Besides professional benefit and acquired confident, TG mentioned some changes in his view. The following quotation highlights TG’s answer:

*“Early I thought that it is more desirable to make separate groups for these people [with special needs], I thought it would be more convenient; for some reasons I thought like this, but now I have seen that existence of this child [deaf] in a group had no any negative influence, I mean on a group and on him, it did not create any problems” (TG).*

#### **4.4.2 Deaf Learners**

##### **Vocational Competences**

The participant learners expressed satisfaction from their learning outcomes, but also articulated the need for further professional development and enhancement of vocational competences. LA stated: *“I don’t know absolutely everything, maybe from 100 only 80-90 %; I want to know more in the field, I need more learning. Now after entering the next vocational level, I expect to learn more and to know everything more completely (LA).*

Similar was LG’s response: *“I don’t think I know completely everything; I know lots of procedures but in some of them I need more comprehension and learning; I don’t know it fully and I want to learn it completely... I don’t want to learn any theory, I want only practice” (LG).*

Differently from the other learners, LB stated that vocation he studied and in general learning process appeared quite difficult and he is not planning to continue self-advancement in this field. *“I know it in a normal level, but not completely; I would learn additionally some things, but it is difficult to me, I am tired from the learning process... I will see... If I knew beforehand it was so difficult to me I would rather choose something different” (LB).*

##### **Employment Possibilities**



Similarly as teachers, the interviewed learners articulated some doubts regarding their future employment. LA expressed uncertainty to find a job because of limited employment possibilities for deaf individuals in the country. He placed more hope on self-employment and expressed desire to open own restraint in a future. *“Anyway I think that it will be difficult to me to find a job and to have high salary because I am deaf, I want to have high salary; I think because I am deaf no one will employ me; but now I have certificate and can prove that I learn this and this, it could help” (LA).*

LB also stressed uncertainty to find a job and be employed, however he mainly connected it to personal reasons. *“I don’t know if this knowledge helps me in employment, It is difficult to me to work with the computer, I don’t think to be employed by it, but generally, I want to find a job” (LB).*

Nonetheless of some doubts, LG expressed hope that gained knowledge and diploma could help him to find a job.

## **4.5 Theme 4 - Enhancement of Vocational Education for Deaf Students**

The theme covers participants’ perspectives on what may support development of deaf vocational education in the future.

### **4.5.1 Vocational Education Teachers**

#### **Enhancement of Teaching and Learning Practice**

As the one of the teaching-learning improving factor interviewed teachers stated importance for a teacher to know even basic signs. Based on participants’ answers, knowledge of sign language will increase direct communication with their deaf students and makes teacher more able to provide support to a deaf students during the learning. According to TA: *“it would be good to know their [deaf individuals’] language better, now this is my shortcoming;”*

Similarly, TG stated: *“It would not be bad to know in some level sign language. I don’t mean those body movements through which I thought I could explain something to the student, no I mean classical sign language, even on an elementary level; teacher must be interested to learn this language.”*

TA considered as important to strengthen teaching of a theoretical part of the program by having available more visual materials, photos and videos. According to TA, visual aids will help deaf learner to better comprehend a content. TB considered very helpful to make video recordings of the lessons. *“Video lessons can bring better results; because they [deaf] have more visual... as I am explaining once... if we could record lessons he [deaf student] would have a possibility to view it several times (TA).* In addition, TA and TG stated the need of ahead preparation of sign language interpreters in regard with particular vocational subject to make them familiar with its content and terms. TG proposed development of short preparation courses for interpreters which will unite interpreters of a one particular program from different colleges.

*“Interpreter often hears some terminology first time during the lessons in a same way as a student does, and it creates difficult situation. It would be good to run even short courses for the interpreters. Personally I can do it, I have time for it ... it would be good if interpreters serving the same subject discuss together and clarify some things and even negotiate signs among each other. Then the interpreter will be more familiar with a particular subject, interpreter must be aware of subject before starting interpretation for a student during the lessons” (TG).*

### **Enhancement of Employment Possibilities**

Teachers stated that currently vocational college do their best to support students’ employment through giving them good qualification, organizing field practices, and maintaining partnership with employers; however, according to participants, this is not enough; to employ deaf or any student with special needs employers need to see some benefit for their business and to make employer interested in it is the responsibility of the government.

*TB stated: “Anyway the changes in legislation must be done, to make employers interested in giving a job to a deaf students after their fieldwork. The role of vocational institutions is to prepare the qualified personnel.”*

*“What else the college can do rather to give knowledge to a student; we cannot do anything more than this; this must be done by the government; of course we have some collaboration with employers but before they do not feel that employment of those children is beneficial for them . . . unfortunately business hardly fit with the charity” (TG).*

### **4.5.2 Deaf Learners**

## **Enhancement of Teaching and Learning Practice**

All participant learners considered beneficial for deaf individuals' learning if vocational teachers know sign language. LA stated: *"If I were a teacher, I would learn the signs regarding to a vocational program;"*

Similarly LB mentioned: *"Of course teacher could help deaf student with the help of sign language interpreter, but I prefer that teacher personally know signs."*

According to LG, *"it would be good if teacher knew sign language, maybe not completely but even few of them, and then teacher will be able to explain to a student personally."*

Besides, LA and LB mentioned the need of application more visual aids during a theoretical lessons. LA stated: *"what teacher explains and asks to write, all these should be showed by the visually."* Similarly, LB specified: *"teacher must know teaching by the visuals."* Besides, LB mentioned the usefulness of writing materials. *"I have forgot already lots of things, but I saved all written materials" (LB).*

Additionally, LA stressed the need to include more deaf individuals in vocational education: *"College should attract our deaf people and make deaf interested in acquiring specialization and receiving education in collage" (LA).*

## **Enhancement of Employment Possibilities**

Similarly as teachers, the learners considered mainly the government's responsibility to support deaf students' employment. *"I think for the college it is difficult to support students' employment, the government must help us in finding job as it is hard for us [deaf]" (LA).*

Additionally, LA and LG suggested some procedures that can be undertaken by the vocational college in support of their employment. LG proposed to make students stay longer at real workplaces during their fieldwork; this will give employers possibility to better observe working potential of deaf students. Besides, LA stated: *"Maybe they [college staff] can try to go to different employers to make them employ us" (LA).*

According to LG, *"College should take us and show them [to employers] what we know to motivate them ... or even deaf can be employed in the colleges" (LG);*

LA considered helpful, to teach students how to start own business, for instance in his case how to open own restaurant.

# 5 Discussion, conclusion and recommendations

## 5.1 Discussion

The current study aims to understand the teaching and learning process of deaf students in a regular vocational education setting, which is an innovative practice in Georgia. To achieve the overall aim of the study, qualitative semi-structured interviews have been conducted with the vocational teachers and deaf learners.

The study has set five sub-questions and the discussion is presented according to the respective sub-questions, which at the same time are related to the important categories of the theoretical framework. As underlined in the findings, the sub-question on the challenges and resources of teaching and learning is not identified as a separate category but integrated in the analysis. The current discussion is based on the interpretation of the findings presented in chapter 4, and the theoretical model and literature review offered in chapter 2.

The educational process is conceptualized as an interaction of two related activity systems – teaching and learning, which is an object-oriented mediated process. The main focus of the analysis is a mediation between teaching and learning (theme 2). The interpretation of the objectives and outcomes of the process (themes 1 and 3) helps to better understand the process itself, and the last theme (4) makes it possible to take into account the participants' perspectives and incorporate them in the recommendations.

### 5.1.1 Objectives of Teaching and Learning

According to the theoretical framework of the study, each practice is driven by an individual's objective, a motivational aspect giving sense to the actions and creating a potential for changes (Engeström, 2010, p. 134). Based on the current findings, the participant teachers and learners' objectives contain similar motivational aspects related to the acquisition of full vocational competences necessary for the employment. A match between the teachers and learners' objectives carries a potential for consolidating their actions.

The fact that teachers' objectives intend to achieve the same vocational competences with deaf students as with all other students demonstrates the existence of high expectations towards deaf learners. It is notable that teachers consider teaching of deaf student as their primary responsibility. Proper attitudes and high expectations towards deaf learners is considered as an essential aspect of deaf education (Antia,et al., 2002, Borgna et al., 2010, Powers, 2002). The link between teachers' understandings of inclusion and their teaching objectives integrating the social participatory and academic aspects is noteworthy.

The participant learners' main aspiration to gain an official diploma, which would be helpful in finding a job, highlights the significance of employment for deaf individuals and the overall purpose of the vocational education; thus, once again stressing the importance of access to high quality formal vocational education for deaf individuals.

Overall, the match between the teachers and learners' objectives, which at the same time reflects the priorities existing in the Georgian context regarding deaf individuals' inclusion and employment, give collective meaning to these objectives (Engeström, 2010, p.136).

It is notable that a novel objective such as teaching of deaf student and also a novel element of the practice such as sign language interpreter produce some tension in the teachers. Even without any previous knowledge and experience in deaf students' teaching, the participants can anticipate some potential challenges of the proposed practice such as the troubles with transferring theoretical information, communication and interaction difficulties. In this respect, TG's (who carried out the preparation work with deaf learner's peers) response on his tension is remarkable. Making hearing peers familiar with the hearing loss and its effects could support peer relations and create better learning conditions; besides, the emphasis on the similarities between deaf and hearing students and not only on the differences [stressed by TG] is valuable (Antia et al., 2002, pp. 219, 222).

### **5.1.2 Mediation of Teaching and Learning**

The analysis of mediation aims to define those acts and means, which supported a successful interaction between the teaching and learning systems with the focus on communication and teaching strategies. Also, challenges, resources and possibilities of this process are reflected.

#### **Communication**

The study has revealed the teachers and deaf learners' preference to use direct communication in the course of personal interaction and to refer to the help of sign language interpreter mainly for transferring theoretical content of the course material.

To establish a direct interaction despite the differences in the communication modes, the deaf learners and teachers usually alter their own communication style or refer to the partner's mode. Body language/gesticulations and the basic signs are the most often applied ones during the direct communication between the teachers and deaf learners. In some cases the use of lip-reading, fingerspelling and written communication is reported. Adjustments of communication modes can be considered as an act of mediation, which implies that the communication partners adjust the form and content of a message to each other's needs and to the situation (Klein, 2001, p. 49). However, sometimes the teachers refer to the means, which are not fully compatible to the deaf learners' abilities as it is in the case of written communication. It is remarkable that even though both groups of participants mention that they manage to communicate with each other, the teachers and learners' perceptions of ease of communication somewhat differs: the deaf learners report more communication difficulties and express their strong desire for a vocational teacher to know sign language. It is notable that the deaf respondents consider an enhanced direct communication with teacher as a possibility to get more access to the learning content/material. This finding highlights the role of communication in achieving 'intersubjectivity' that is the basis for learning (Rogoff, 1990, Vygotsky, 1978). Interestingly, this finding is in contrast with the finding by Foster et al. (1999) that reports that unlike their hearing peers, deaf students put more emphasis on the effective communication with an interpreter than a teacher to get access to learning content.

It is noteworthy that during the interview the questions related to communication inevitably moved the participants to the discussion of different teaching-learning situations and teaching means, proving that communication is inseparable from the entire teaching-learning process and is the core of learning (Cawthon, 2001, p. 214, Johnsen, in press 2013).

Most of the participants reported the existence of good communication and interactions with peers that is necessary for deaf learners to feel themselves as the members of educational community (Antia, 2002, p. 219). This is a valuable finding as based on the literature, deaf learners often feel themselves excluded from the classroom interaction (Knoors & Hermans, 2010).

## Teaching strategies

Based on the findings, the teachers acknowledge individual differences among the learners and attempt to use an individual approach that is in compliance with the main principle of inclusive education (UNESCO, 1994). It is notable that the teachers distinguish between the adaptation of the learning goals and the ways of achieving these goals. Stating that deaf learners are able to follow the general requirements, the teachers do not change the goals of teaching but the teaching approach within the ordinary curriculum. It is notable that the teachers' high expectations towards deaf learners are translated from the objectives into the actual practice.

Some strategies applied by the teachers with deaf learners were practiced with all other students and recognized as especially useful for deaf learners, whereas some of them were developed specifically for deaf learners based on the latter's observed needs. This finding demonstrates how a new 'element' of the practice can stimulate innovative attempts (Engeström, 2010, p. 137). Many of the strategies perceived as helpful by the both groups of participants corresponding to the strategies described in the academic literature.

Personal observation of students' performance carried by the teachers acted as an instrument to figure out the learners' needs and abilities and to adapt teaching according to them. The ongoing progress monitoring and feedback used by the teachers is a remarkable strategy as it makes teacher sensitive to learner's needs and enables to provide teaching within the zone of learner's learning potential (Vygotsky, 1978, Kirk et al, 2012 & Luckner, 2010). Besides, this strategy gives to deaf learner a clear picture of own attainments and educational demands.

The demonstration and modeling of task performance is named as the most effective strategy by both groups of participants. Demonstration and modeling exemplifies the process of mediation where a teacher introduces the pattern of activity to a learner (Klein, 2001, p. 35). These strategies respond to deaf learners' visual processing abilities (Knoors & Hermans, 2010); besides, their effectiveness in inclusive classrooms is confirmed by different studies (Winter & O'Raw, 2010).

Another useful means named by the participants is practicing. Learning by doing, experiential learning has its evidence as the strategy supporting deaf learners to learn material (Luckner, 2010 & Lang, 2002). It is remarkable that a large portion of practical activities typical to vocational education creates rather supportive conditions for deaf students' teaching and

learning. The practical activities allow the teachers to provide individual support to their deaf learners and apply themselves to mediate learning. Placing oneself between a learner and the learning environment is the act of mediation (Klein, 2001, p. 35).

Besides, the teachers refer to peer mediation that is a notable aspect, as capable peers often serve as a resource for learning (Vygotsky, 1978 & Rogoff, 1990). Benefit of peer tutoring for a tutor, a receiver of this support and a teacher is proved by a wide range of studies (Winter & O'Raw, 2010).

Based on the current findings, the teachers refer to the classroom arrangement to mediate the interaction between deaf learner and the learning context. The front placement assigned to the deaf learners makes visual materials and classroom procedures more accessible for them and ensures a better visual contact between the teacher and learner. A proper placement of deaf learner is one of the important classroom arrangement tactics (Knoors & Hermans, 2010). It is notable how TB's perception of the deaf learner's placement has changed in practice, from his separate location to the placement together with peers.

As the findings have revealed, some of the teachers modify their written and verbal language in order to make instructions more accessible for deaf learners. Individually provided clear and short oral and written instructions prove to be effective (Winter, O'Raw, 2010, pp. 89, 91). The framing language according to the linguistic needs of deaf learner is an example of mediation as language is one of the powerful cultural tools and a provider of the structure for understanding (Vygotsky, 1978, Rogoff, 1990 & Cole, 1996).

A slow pace of teaching used by TG and stressed as a necessary learning condition by LG is another adaptation of the information delivery that increases the deaf learners' access to the content and the classroom process and is a frequently addressed factor by the scholars (Cawthon, 2001, Foster et al., 1999 & Marschark et al., 2010).

Sequencing of the procedures allowing a deaf learner to follow both the interpreter and the classroom procedures, elaborated by TA and TG for their deaf learners, is an example of how the learner's needs stimulate development of the new teaching means. The valuable finding is that TG has recognized this strategy as useful for some hearing students as well. This case exemplifies how some adaptations made initially for the learner with special needs become beneficial for other learners in the classroom too. The similar results are reported in the



literature (Foster et al., 1999, Antia, et al., 2002, p.221). This finding is in agreement with the main principle of inclusive education and the “enrichment perspective” considering the diversity and heterogeneity in the classroom as a source of developing new teaching approaches and a resource for all learners (Befring, 2001, Wells and Claxton, 2002, UNESCO, 1994).

According to the teachers, while adapting the teaching process to the deaf learners’ needs, they are mainly based on their intuition and the trial and error method. The teachers reflexivity and creativity is valuable, however, it is also important to build the teaching on the evidence-based practice. There are many strategies described in the literature that teachers could have in their repertoire and pick up the most suitable ones in each individual deaf learner’s case.

### **Challenges, resources and possibilities of teaching and learning**

As it is emphasized by the CHAT, the tensions between the new and old elements of the practice often produce challenges; however, these tensions can be a source for generating new resources and developmental changes (Engeström, 2010). The findings have revealed different challenges experienced by the both groups of participants during their novel practice.

The challenge of transmitting and comprehending theoretical content reported by the most participants are caused by different factors, some of which are related to deaf participants’ limited language, reading and writing competences. Similar difficulties encountered by deaf learners are described in the research literature (Foster, 1999, Lederberg & Spencer, 2001, Richardson, et al., 2010, Knoors & Hermans 2010).

Restriction in sign-language mediation, caused by the interpreter’s unfamiliarity with a particular vocational subject, in some cases doubles the challenge related with the teaching theory. The negative impact of the interpreter’s limited subject knowledge on the content transmission was reported by Knoors and Hermans (2010), Long and Snell (1999), Powel et al. (2013). The finding by Schick and et al. (2006) is notable confirming that 60% of interpreters across the United States lacked the skills to provide a complete access of deaf students to classroom information. This data seems especially critical in relation to the Georgian context, where the educational interpreter is a new phenomenon and there are no preparation programs for interpreters.

A limited time to adapt reading texts and generally, the lack of proper reading and other adapted visual materials for deaf learners creates an additional challenge for teaching and learning theoretical part of the program.

A challenge noted by TG as the deaf learner's difficulty to manage several tasks at a time that restricts deaf learner's access to the classroom information and procedures is a common issue reported in the literature on deaf education (Richardson, et al, 2010 & Foster, et al. 1999).

Another challenge worth attention is a deaf learner's restricted participation in the classroom discussions and conversations, mentioned by TG and many times stressed by different investigators (Foster, et al., 1999, Lang, 2002, Cawthon, 2001, Knoors & Hermans, 2010 & Powell et al., 2013). Classroom discussions/conversations can be seen as social situations enabling sharing of ideas and promoting new understandings as the knowledge is "co-constructed" through the social interaction with others (Cole, 1996, Vygotsky, 1978). As a teacher is not the only source of knowledge, the deaf learner's limited access to peers' questions, replies and comments restricts learning opportunities.

The challenge with division of attention among students stated by the teachers demonstrates the tension between the implicit rule requiring from a teacher to pay equal attention to all students and the new demand requiring the provision of extra support to deaf learner.

It is notable that some challenges reported by the teachers and the learners are similar, pointing to the teachers' sensitivity to their deaf learners' needs, which is a precondition to mediate meaningful learning experiences. However, there are also specific needs stated by the deaf learners but not perceived as such by the teachers as it is with written exams, creating a serious challenge for the deaf learners. Besides, even though the teachers recognize the deaf learners' difficulties of language comprehension, reading and writing, it seems that they underestimate the deaf learners' difficulties. High expectations towards deaf learners and the need to challenge them is considered essential (Borgna et al., 2010, Marschark, 2011), however, these challenges need to be manageable and within the zone of learners' proximal development (Vygotsky, 1978, Rogoff, 1990). The misjudgment of learner's needs creates a risk to prevent a learner from getting necessary adaptations and support. The same risk is created when the teachers refuse to make some adaptations as an attempt to protect deaf learners from being perceived as different by the peers, as stated by the TA and TG. As seen from the findings, the teachers themselves admit the differences among the learners but there

is a need to integrate this vision into the everyday practice of classroom community. The recognition of differences by the learning community is one of the indicators of the inclusive practice (Powers, 2002, UNESCO, 1994). Another notable factor, which could restrict deaf learners' access to the individually suitable procedures, is the absence of legally defined frames for individually adapted education at the vocational education level.

It is notable that deaf learners are well aware of their own needs. Some strategies applied by the teachers and considered useful by the deaf learners are not listed by the teachers themselves. This fact makes us assume that the teachers might not always be aware how their actions could be beneficial for deaf learners. It is remarkable that most challenges articulated by the participants are similar to those described in the literature on deaf education. These similarities demonstrate that alongside unique needs each individual deaf learner has, there are some common difficulties characteristic of deaf individuals as the learners' population. Thus, understanding deafness as a learning condition is an important aspect for the teachers involved in deaf education (Lang, 2002).

It is noteworthy that the participant teachers even lacking previous experience in deaf education demonstrate the ability to mediate a successful interaction between teaching and learning. Interestingly, the variation in the participant teachers' working experiences have not shown important difference in practice. Like other two teachers, the less experienced one has demonstrated the reflective practice and the application of adapted teaching strategies.

Regarding the mediating role of other community members of the college, hearing peers have appeared as an important resource of deaf learners teaching and learning. It is remarkable that the service of sign language interpreter is recognized as an essential resource by most of the participants. The necessity of a sign language interpreter for deaf students' access to classroom information and communication in regular, oral-based classrooms has been frequently reported in the literature (Cawthon, 2001, Schik, Williams & Kupermintz, 2005, Knoors & Hermans, 2010). As the current study shows, the help provided by an interpreter varies from case to case. On the one hand, it exemplifies how the responsibilities are modified based on the situation (Antia, et al., 2002, p. 221), while on the other hand, it shows that the roles are not clearly defined within the setting. The same could be stated regarding the inclusive education specialist and assistant. It seems that their mediational role in relation to deaf students' teaching-learning is not clear yet and their resource is not fully applied in practice.

### 5.1.3 The Outcomes of Teaching and Learning

Based on the theoretical model of the study, the outcomes of the activity systems represent the initial objectives transformed by the participants through their enduring practice and effort.

The findings revealed the participant teachers' satisfaction with the educational outcomes of deaf learners stating that the latter achieve vocational competences intended by the program. Even though from the very beginning the teachers have revealed high expectations towards deaf learners, their reflection on the outcomes demonstrate that deaf learners' exceed their expectations. Differently from the teachers, the participant learners are not completely satisfied with the acquired vocational competences, expressing the need and desire to continue learning and self-mastering. The exception is LB, to whom the learning process appeared difficult. The outcome stated by TG related to the realization of the learning aspiration by LG, and LA's and LG's desire to further proceed learning are valuable outcome as education meant to create an opportunities for the realization of learning potential and to encourage enduring learning.

Regarding the future employment opportunities, both groups of participants expressed their skepticism. According to them, the acquired vocational competences are not sufficient for finding a job and deafness itself could act as a restricting factor. These findings indicate the issue of deaf employment reported internationally (Rydberg, 2010). However, the official diploma still appears promising for the participant deaf learners.

Alongside the intended outcomes, the findings have revealed the unintended ones, positive "side effects." According to the teachers, the learning with deaf learners was a good experience for hearing students as they increased awareness of deaf culture and sign language and gain an experience of interacting with deaf individuals. As stated in the literature, classroom interaction with deaf students helps to overcome the stereotypes about deafness (Antia, et al., 2002, pp. 222, 223). Furthermore, the teachers have reported increased competences and confidence in teaching deaf learners that is an important aspect for further development of vocational education for deaf learners. It is important to stress the outcome stated by TG, who reconstructed his understanding of provision education for learners with special needs from segregated to inclusive, admitting the latter as valuable and acceptable.

The outcomes of the teaching and learning exemplify how participation in everyday activities transforms individuals' visions and practices (Cole, 1996, Rogoff, 2003, Engeström, 1999).

The outcomes stated by the participants obviously carry the long-lasting social importance that is distinctive to the products of the activity systems (Engeström, 1999, p. 31).

#### **5.1.4 Enhancement of Vocational Education for Deaf Students**

The solutions offered by the participants for the further development of the vocational education for deaf students target two main areas - the teaching and learning process itself and the deaf learners' employment prospects.

Both groups of participants considered the knowledge of sign language by the teachers as a necessary condition to improve the teaching and learning practice. The need to enhance communication between teacher and learner stressed once again in the participants' recommendations confirms the core role of communication for the learning. It is remarkable LG's suggestion regarding the sign language interpreters' preparation oriented on making them more knowledgeable in a particular vocational subject, which proposed to be the one of the necessary preconditions of deaf effective education (Lang, 2002, Foster et al., 1999, Marschark, 2008).

Besides communication, the participants' suggestions relate to the means of mediation of teaching-learning, such as visual aids and written notes, which are especially important for teaching theoretical material. Videotaped versions of the lessons suggested by TB stresses importance of technology in deaf education (Luckner, 2010, Knoors and Hermans 2010). Concerning the enhancement of deaf individuals' employment opportunity, both groups of participants consider it as a duty of the governments; however, besides the government, the learners also see the role of vocational college in their employment through enhancing field practices, promoting deaf students among the employers and teaching the entrepreneurship.

(The visual representation of the interpreted findings is offered in Appendix 10).

## **5.2 Conclusion**

The study aimed to understand the teaching-learning practice of deaf students in an ordinary vocational education setting. The concepts and main principles of the cultural-historical activity theory (CHAT) have appeared appropriate to generate and interpret the findings. The following conclusions can be inferred from the study:

The vocational education teachers and deaf learners' objectives are in compliance with each other, as well as the main goal of vocational education intending to equip the learners with the vocational competences necessary for their employment. The teachers have high expectations towards deaf learners and perceive their teaching as an ordinary aspect of one's own practice.

The preference of direct communication makes the participants adjust their communicating modes and styles to each other. Communication is closely linked to other teaching means and the whole teaching-learning practice. Communication appears an essential ingredient of deaf students teaching and learning proposing the necessity to enhance both direct teacher-learner and sign language-mediated communication.

Through high expectations towards deaf learners and reflexive practice, even the teachers lacking previous experience of teaching deaf students are able to adapt their teaching and create the learning supporting conditions. The teachers apply various physical and conceptual mediating means, and refer to direct and indirect mediation. The teaching strategies initially applied with deaf learners show benefit for other learners as well. The practical nature of vocational education creates supportive conditions for deaf students' teaching and learning allowing to use the mediating means suitable for deaf learners. There is good a match between the strategies considered as effective by the teachers and preferred by the deaf learners themselves. Still, the teachers could have a more diverse repertoire of teaching tools.

New elements and demands of the practice cause certain challenges. Theoretical part of the vocational program and its examination creates the main challenge for the deaf learners that can be attributed to different factors, both internal and external to deaf learners. The absence of legally defined frames for individually adapted education and its ambivalent perception by the teachers, represent the risk factors for deaf learners' access to necessary adaptations. Even though, the teachers are sensitive to deaf learners, some of the learning needs are still underestimated. Concerning the mediating role of community members, sign language interpreter is an essential resource of deaf vocational education. Hearing peers also represent a real resource for deaf learners. However, not all resources available at the setting are recognized and sufficiently applied in practice, and the roles and responsibilities of the community members are not clearly defined yet.

The outcomes of teaching and learning respond to the participants' initial objectives and are considered predominantly satisfactory by the participants. Overall, the outcomes stated by the

participants illustrate the conceptual and practical changes the individuals undergo through their participation in teaching-learning practice. These outcomes are seen meaningful both for its participants and for the future development of deaf vocational education in the country.

As it was emphasized in the introductory part, there is no ready available model of deaf inclusive vocational education in the country; however, the study participants have created their own pattern of teaching-learning through the actual practices. Even through this pattern needs further enhancement, it is an expression of the expansive practice and carries new possibilities of deaf vocational education. As stated by Engeström (2010), the understanding of expansive transformation is based on a collective journey through the zone of proximal development, which is a distance between the present actions and new forms of activity that can be collectively generated as a solution to the dilemmas potentially embedded in everyday practices (p. 137).

### **5.3 Recommendations**

The recommendations below unite the perspectives of the key study participants –deaf learners and their vocational teachers, of the field experts participating in the focus group meeting and my as the researcher’s perspective shaped by the whole process of inquiry. I tried to bring in front recommendations realization of which seems within the zone of proximal development of Georgia in relation to deaf inclusive vocational education.

It seems necessary to enhance direct communication between deaf learners and their hearing teachers. Short courses in sign language for teachers could serve this aim. Besides, it is necessary to carry out short courses for sign language interpreters to make them more knowledgeable in particular vocational subjects and its terminology. Besides, it is important to increase interpreters’ competences to mediate teaching-learning in educational settings with the focus on ethical and technical aspects of the interpretation. Further, consolidation of signs related to particular vocational subjects could enhance mediation of teaching and learning. Besides, it is critical to provided deaf learners with the enduring sign language interpreting service during the classes.

Vocational teachers need extra professional support to build their teaching in more evidence based practice, to apply more diverse strategies suitable for deaf learners and to increase awareness in individually adapted education. Besides, preferable to make teachers more

informed in strategies of introducing deaf learners to hearing peers. In addition, provision teachers with the additional visual materials/aids could better support transmission and comprehension of the theoretical content.

There is a need to make procedures related to individually adapted education, including exams, more explicit at least at the vocational education setting level and build common understanding of it among the community members. Besides, clarification of the roles and responsibilities of the community members, effective division of the labor and maximal use of the existing resource in regard with deaf education, seems necessary. For instance, assistance of the setting can fulfil the function of the note-taker.

Including the course of entrepreneurship in different vocational programs could be the supportive factor of deaf students' future employment, together with other strategies which seems necessary to be developed by the college in support of deaf graduates employment.

It is desirable to disseminate good practices of deaf vocational education through periodical meetings of teachers and other staff of the different settings and through sharing experiences. In a same way, promotion of vocational education among deaf individuals, including schools learners, with the active involvement of the college students and/o graduates is desirable.

## **5.4 Limitations and the Need for Further Research**

Besides the limitations stated in the methodological chapter (3) of the report, the current study obviously is missing the perspectives of the sign language interpreters who also appeared as another key participants of deaf teaching and learning. Thus, investigation of sign language interpreters' perspectives on the existing practice seems valuable.

Besides, the perspectives of the other professionals of the settings could be a focus. Further, the observational study with the focus on classroom communication and teaching strategies is advisable. Also, the participatory action research oriented on the expansion of the existing practice, with the participation of key actors of deaf vocational education is sensible. CHAT as the research framework seems suitable tool to carry participatory action research. In addition, research on deaf inclusive vocational education should reach also the regional vocational settings of the country to have more thorough picture of the existing practice.



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# Appendix 1

Norsk samfunnsvitenskapelig datatjeneste AS  
NORWEGIAN SOCIAL SCIENCE DATA SERVICES



Postboks 1047 Blindern  
N-0316 Oslo  
Tlf: +47 22 38 21 17  
Fax: +47 22 38 50 50  
nsd@nsd.uib.no  
www.nsd.uib.no  
Orgnr: 980 421 884

Jorunn Buli-Holmberg  
Institutt for spesialpedagogikk Universitetet i Oslo  
Postboks 1140 Blindern  
0318 OSLO

Vår dato: 13.11.2014

Vår ref: 40257 / 3 / JSL

Deres dato:

Deres ref:

## TILBAKEMELDING PÅ MELDING OM BEHANDLING AV PERSONOPPLYSNINGER

Vi viser til melding om behandling av personopplysninger, mottatt 12.10.2014. Meldingen gjelder prosjektet:

<i>40257</i>	<i>Vocational Education of Deaf Learners</i>
<i>Behandlingsansvarlig</i>	<i>Universitetet i Oslo, ved institusjonens øverste leder</i>
<i>Daglig ansvarlig</i>	<i>Jorunn Buli-Holmberg</i>
<i>Student</i>	<i>Maia Tsuladze</i>

Personvernombudet har vurdert prosjektet, og finner at behandlingen av personopplysninger vil være regulert av § 7-27 i personopplysningsforskriften. Personvernombudet tilrår at prosjektet gjennomføres.

Personvernombudets tilråding forutsetter at prosjektet gjennomføres i tråd med opplysningene gitt i melde skjemaet, korrespondanse med ombudet, ombudets kommentarer samt personopplysningsloven og helseregisterloven med forskrifter. Behandlingen av personopplysninger kan settes i gang.

Det gjøres oppmerksom på at det skal gis ny melding dersom behandlingen endres i forhold til de opplysninger som ligger til grunn for personvernombudets vurdering. Endringsmeldinger gis via et eget skjema, <http://www.nsd.uib.no/personvern/meldeplikt/skjema.html>. Det skal også gis melding etter tre år dersom prosjektet fortsatt pågår. Meldinger skal skje skriftlig til ombudet.

Personvernombudet har lagt ut opplysninger om prosjektet i en offentlig database, <http://pvo.nsd.no/prosjekt>.

Personvernombudet vil ved prosjektets avslutning, 31.07.2015, rette en henvendelse angående status for behandlingen av personopplysninger.

Vennlig hilsen

Katrine Utaaker Segadal

Juni Skjold Lexau

Kontaktperson: Juni Skjold Lexau tlf: 55 58 36 01

Vedlegg: Prosjektvurdering

Kopi: Maia Tsuladze [mako\\_tsula@yahoo.com](mailto:mako_tsula@yahoo.com)

Dokumentet er elektronisk produsert og godkjent ved NSD's rutiner for elektronisk godkjenning.

A-arkivnummer: 7.06.01.0376

NSD AS | Universitetsgt. 1, Postboks 1047 Blindern, 0316 Oslo | Tlf: +47 22 38 21 17 | [nsd@nsd.uib.no](mailto:nsd@nsd.uib.no)  
NSD AS | Norges teknisk-naturvitenskapelige universitet, 7901 Trondheim | Tlf: +47 73 31 05 10 | [kjell.sandness@ntnu.no](mailto:kjell.sandness@ntnu.no)  
NSD AS | Universitetet i Tromsø, 9001 Tromsø | Tlf: +47 77 91 41 00 | [nsd@uit.no](mailto:nsd@uit.no)





The sample will receive written information about the project, and give their consent to participate. The letter of information and consent form are somewhat incomplete, and we ask that the following is changed/added:

- The following must be deleted: "Your participation is anonymous - no personal data will be used in the project and" (as indicated in the "Melde skjema", you register personal data).
- Inform the student that you ask for permission to conduct interviews with the deaf learners teacher, since the teacher are bound by secrecy about singular students. Add that the interview with the teacher indirectly will be about the deaf learner, since there might be only one deaf learner in a class. Add that the learner can see the interview guide for the teacher, before he/she give a permission.
- Inform the teacher that you ask the deaf student for permission to conduct the teacher interview.
- The consent form should have two boxes, so that the student can mark that he/she gives his/hers consent for:  
a) I want to participate in the interview, and b) I give my permission so that the teacher can participate in an interview about his/hers experiences with teaching me (and possibly others) as a deaf student".

We ask that the revised letter of information is sent to [personvernombudet@nsd.uib.no](mailto:personvernombudet@nsd.uib.no) before contact with the sample is established.

There will be registered sensitive information relating to health.

The Data Protection Official presupposes that the researcher follows internal routines of Universitetet i Oslo regarding data security. If personal data is to be stored on a private computer, the information should be adequately encrypted.

Estimated end date of the project is 31.07.2015. According to the notification form all collected data will be made anonymous by this date. Making the data anonymous entails processing it in such a way that no individuals can be recognized. This is done by:

- deleting all direct personal data (such as names/lists of reference numbers)
- deleting/rewriting indirectly identifiable data (i.e. an identifying combination of background variables, such as residence/work place, age and gender)
- deleting audio recordings

Please note the the sign language interpreter must delete all personal information connected to the project.

# Appendix 2

## An example of the application letter for the Ministry of Education and Science of Georgia

To the Head of the Vocational Education Development  
Division of the of the Ministry of Education and  
Science of Georgia

XXXXXXXXXXXXXXXXXX

Maia Tsuladze's living at XXXXXXXX

tel.:XXXXXXXXXX

Date:

### A P P L I C A T I O N

I am a second year student at the Master Program of Philosophy in Special Needs Education at the University of Oslo (Norway). I am working on my Master project: Vocational Education of Deaf Learners in regular Vocational Educational Settings in Georgia, which is aimed to investigate the teaching and learning process in the regular vocational settings in Georgia, from the vocational teachers' and deaf learners' perspectives.

This is a qualitative study based on the semi-structured interviews. The interviews will be conducted both with deaf students and with their vocational teachers. The questions will mainly concern the communication and teaching strategies applied during the teaching and learning process; resources and challenges experienced in the course of teaching-learning and teachers' and students' opinions on how the existing practice can be enhanced in the future.

I kindly ask you for the permission to conduct the study in the one of the vocational educational institutions having experience in deaf vocational education.

The short description of the study and the letter from the Special Needs Education Department of the University of Oslo are provided as an appendix.

Sincerely,

Maia Tsuladze

Approval letter from the Ministry of Education and Science of Georgia



საქართველოს განათლებისა და მეცნიერების სამინისტრო  
MINISTRY OF EDUCATION AND SCIENCE OF GEORGIA



MES 7 14 00925476

20/11/2014

✓ მოქალაქე მაია წულაძეს  
მოკითხვამდე  
ტელ: (593) 35 32 25

ასლი: სსიპ საზოგადოებრივ კოლეჯს „მერმისი“

ქალბატონო მაია,

აქართველოს განათლებისა და მეცნიერების სამინისტროს პროფესიული განათლების განვითარების დეპარტამენტი შემოვიდა თქვენი განცხადება (N898571; 12/11/2014), რომლითაც ითხოვთ ნებართვას, სსიპ საზოგადოებრივ კოლეჯში „მერმისი“ განახორციელოთ კვლევა, პროფესიულ საგანმანათლებლო დაწესებულებებში სმენის დარღვევის მქონე პირების სწავლა-სწავლების პროცესთან დაკავშირებით, სამაგისტრო კვლევითი პროექტის მომზადების მიზნით. გაცნობებთ, რომ ინკლუზიური განათლების პრინციპების დანერგვა პროფესიულ საგანმანათლებლო პროცესში, საქართველოს განათლებისა და მეცნიერების სამინისტროს ერთ-ერთ პრიორიტეტს წარმოადგენს. აღნიშნულიდან გამომდინარე, პროფესიული განათლების განვითარების დეპარტამენტი მხარს უჭერს თქვენს წამოწყებას და მზადყოფნას გამოთქვამს კომპეტენციის ფარგლებში დახმარებისთვის.

პატივისცემით,

პროფესიული განათლების განვითარების  
დეპარტამენტი  
დეპარტამენტის უფროსი  
თამარ ქიტიაშვილი

0102 ქ.თბილისი, დიმიტრი უზნაძის ქ. 52  
52 Dimitri Uznadze str. Tbilisi 0102, Georgia, [www.mes.gov.ge](http://www.mes.gov.ge)  
ტელ/Tel.:(+995 32)2 31 89 40

*/Coat of arms/*

**Ministry of Education and Science of Georgia**

MES 7 14 00925476

20/11/2014

To: Maia Tsuladze

Yours Truly

Phone: (593) 35 32 25

cc: LEPL Public College "MERMISI"

Mrs. Maia,

Department of Vocational Education Development of the Ministry of Education and Science of Georgia accepted your Application (#898571; 12/11/2014) requesting the permit to perform research at LEPL Public College "MERMISI" in relation to study-teaching process of hearing impaired persons in vocational educational institutions for the purpose of preparing master research project.

Be informed that introduction of principles of inclusive education in vocational educational process is one of the priorities of the Ministry of Education and Science of Georgia. Resulting from above-mentioned, Department of Vocational Education Development supports your initiative and is ready to help you within its competency.

Sincerely,

Department of Vocational Education Development

Head of the Department

Tamar Kitiashvili

/signed/

Translated by:

*Anna Chergishvili*





სანოტარო მოქმედების რეგისტრაციის ნომერი

N150003948



სანოტარო მოქმედების რეგისტრაციის თარიღი

06.01.2015 წ

სანოტარო მოქმედების დასახელება

დოკუმენტის თარგმანზე დიპლომირებული მთარგმნელის ხელმოწერის დამოწმება

ნოტარიუსი

მარიამ ოძელაშვილი

სანოტარო ბიუროს მისამართი

გამსახურდიას გამზირი 7ა-ს მიმდებარე ტერიტორია

სანოტარო ბიუროს ტელეფონი

2725572

სანოტარო მოქმედების ინდივიდუალური ნომერი

17757210109515



სანოტარო მოქმედებისა და სანოტარო აქტის შესახებ ინფორმაციის (მისი შექმნის, შეცვლის და/ან გაუქმების შესახებ) მიღება-გადამოწმება შეგიძლიათ საქართველოს ნოტარიუსთა პალატის ვებ-გვერდზე: [www.notary.ge](http://www.notary.ge) ასევე შეგიძლიათ დარეკოთ ტელეფონზე: +995(32) 2 66 19 18

საქართველო  
Georgia

სანოტარო აქტი  
Notary Act

მე, საქართველოს ნოტარიუსი მარიამ ოძელაშვილი (რომლის სანოტარო ბიურო მდებარეობს მისამართზე: ქ. თბილისი, გამსახურდიას გამზ. 7 ა-ს მიმდებარე ტერიტორია) I, Notary of Georgia, Mariam Odzelashvili (notary office located at the address: Gamsakhurdia 7a adjacent territory, Tbilisi, Georgia) გამოწმებ ინგლისური ენის დიპლომირებული მთარგმნელის ანა ჭეიშვილის (დაბადებული 08.03.1984 წელს, მცხოვრები ქ. თბილისი, მ. მამარდაშვილის ქ. №21ა, პირადი № 60001026246, პირადობის მოწმობა №დ 1118329, გაცემული სამოქალაქო რეესტრის სააგენტოს დიდუბე-ჩუღურეთის სამსახურის მიერ 17.12.2007 წელს) ხელმოწერის სინამდვილეს.

Certify authenticity of signature of English language translator Ana Cheishvili (born on 08.03.1984, residing at the address: 21a, M. Mamardashvili St., Tbilisi, Georgia, personal #60001026246, Identity Card #D 1118329, issued on 17.12.2007 by Didube-Chugureti Territorial Office of Civil Registry Agency).

თარჯიმანმა წარმოადგინა ენის ცოდნის დამადასტურებელი დოკუმენტი: დიპლომი AA № 000124 გაცემული თბილისის ილია ჭავჭავაძის სახელობის ენისა და კულტურის სახელმწიფო უნივერსიტეტის მიერ 2005 წელს, საერთაშორისო ურთიერთობების სპეციალობით, ბაკალავრის აკადემიური ხარისხი და საერთაშორისო ურთიერთობების სპეციალისტის (ინგლისური და ესპანური ენები) კვალიფიკაცია.

Translator presented the Diploma AA №000124 issued in 2005 by Tbilisi Iliia Chavchavadze State University of Languages and Culture, holder of Bachelor's Degree and the qualification of a Specialist in International Relations (the English and Spanish languages). მთარგმნელი გაფრთხილებულია, რომ პასუხს აგებს თარგმანის სიზუსტეზე და იგი იძლევა თარგმანის სისწორის გარანტიას.

Translator is warned about her responsibility for accuracy of a translation and she guarantees true translation.

გადახდილია ნოტარიუსის საზღაური 2,0 ლარი თანხმად "სანოტარო მოქმედებათა შესრულებისათვის საზღაურისა და საქართველოს ნოტარიუსთა პალატისთვის დადგენილი საფასურის ოდენობების, მათი გადახდევინების წესისა და მომსახურების ვადების დამტკიცების შესახებ" საქართველოს მთავრობის 29.12.2011წ. №507 დადგენილების 31-ე მუხლისა, აგრეთვე სანოტარო მოქმედების რეგისტრაციის საფასური 2,0 ლარი თანხმად საქართველოს მთავრობის 29.12.2011წ. №507 დადგენილების 39.1 მუხლისა; სულ 4,0 ლარი.

Paid notary fee 2.00 GEL, according to 31 Article of Resolution #507 of Georgian Government dated of 29.12.2011 "About notary fees and number of fees determined for Chamber of Notary of Georgia, method of payment and approval of service terms", as well as 2.00 GEL for registration duties of notary act according to 39.1 Article of Resolution #507 of Georgian Government dated of 29.12.2011; totally paid 4.00 GEL.

ნოტარიუსი  
Notary



მარიამ ოძელაშვილი  
Mariam Odzelashvili

# Appendix 3

## Examples of Information Letters

### Information Letter for the College Principal

#### Request for Participation in the Research Project

The Working Title: Vocational Education of Deaf Learners (the Georgian case).

#### *The background Information*

I am a second year student at the Master Program of Philosophy in Special Needs Education, at Oslo University, Norway. I am working on my Master's project aimed to investigate the teaching and learning process of deaf students in the regular vocational settings in Georgia, from the vocational teachers' and deaf learners' perspective. Thus, the study will be conducted with the both, deaf students (ex-students) and with their vocational education teachers. The information collected through the study will help to better understand how the process of teaching and learning is currently held. The study does not intend to judge or criticize any aspect of teaching-learning process; the questions will mainly concern the communication and teaching strategies applied during the teaching and learning process; resources and challenges experienced in the course of learning by the learners and teachers and their opinions on how the existing practice can be enhanced in the future.

#### *Participation in the Research*

As your vocational college is the one of the participants of the pilot project "Introduction of Inclusive Education in Vocational Education and Training System in Georgia" having experience of providing vocational education to deaf learners, I am looking for deaf students and their vocational teachers to take part in my study.

*Voluntary Participation* - Participation in the study is voluntary. Teachers and deaf students (ex-students) will give their consent for participating; however, they can withdraw from it any time they wish without stating any reason.

#### *Collection and the Use of the Data*

The information will be collected through the interview, which will take approximately 30- 40 min. The interview with deaf learners will be conducted with the help of sign language interpreter. The interview conversations will be audio recorded (supplemented by the researcher's written notes) and transcribed. Responses to the interview questions will be used only for the purposes of this study. After the submission of the project in July 2015, all records and personal information will be erased.

### *Confidentiality*

No one will have access to any type of interview material except me (researcher). No personal data will be used in the project and all the personal information available for me, as well as the name of your collage will be held in strict confidentiality and after the submission of the project in July 2015, all records and personal information will be erased.

However, you should know, as nowadays not so many colleges provide vocational education for deaf learners, there are some possibility that information presented in the study might be indirectly associated with your college.

Permission to conduct the study in your vocational educational institution is taken from the head of the Vocational Education Development Division of the Ministry of Education and Science of Georgia. The study has been notified to the Data Protection Official for Research, Norwegian Social Science Data Services.

I kindly ask for your support, to pass the information letters provided additionally to this letter to vocational teachers and deaf students (ex-students) of your college and in case of their willingness help me in establishing contact with them.

If you will have any questions concerning the study, I am ready to answer them and provide any additional information. My contact information: XXXXXXXXXX

Thank you for your help!

Sincerely,

Maia Tsuladze

## **Information Letter for the Learners**

### **Request for Participation in the Research Project**

The Working Title: Vocational Education of Deaf Learners (the Georgian case).

Dear Student

I am a second year student at the Master Program of Philosophy in Special Needs Education at Oslo University of Norway. I am working on my Master's project aimed to investigate the teaching and learning process in the regular vocational education settings in Georgia, from the vocational teachers' and deaf learners' perspective. Thus, the study will be conducted with the both, deaf students and their vocational education teachers.

#### *Participation in the Research*

As the vocational college you are graduated from is the participant of the pilot project "Introduction of Inclusive Education in Vocational Education and Training System in Georgia" and you are the one of the first deaf students receiving inclusive vocational education, it is very valuable to study your experiences and perspectives. The information provided by you will help to better understand how the process of teaching and learning is currently held. The study does not intend to judge or criticize any aspect of teaching-learning process; the questions will mainly concern the communication and teaching strategies applied during the teaching and learning process; resources and challenges experienced in the course of learning and your opinion on how the existing practice can be enhanced in the future.

In addition, I want to ask your permission to conduct the interview with your vocational teacher; the interview with your vocational teacher indirectly will be about you and touch the aspects of teaching and learning such as your involvement in learning activities, the competences gained by you and so forth. In case of desire, you can get the interview guides (both for students and for vocational teachers) before you give your permission to conduct the interview with your vocational teacher and before your give the consent to participate in the study.

#### *Collection and the Use of the Data*



The information will be collected through the interview, which will take approximately 30-40 min. and will be conducted at the place and time the most convenient for you. The interview will be conducted with the help of sign language interpreter. The interview conversations will be audio recorded (supplemented by the researcher's written notes) and transcribed. All the perspectives and views expressed through the interviews will be reported truthfully and in case of desire, you will have a possibility to check the accuracy of the main findings and their interpretations. Your responses to the interview questions will be used only for the purposes of this study.

### *Confidentiality*

No one will have access to any type of interview material except me (researcher). No personal data will be used in the study report. All the personal information available for me will be held in strict confidentiality. The sign language interpreter will give the consent to maintain in confidentiality all the information available to him/her during the interview. After the submission of the project in July 2015, all records and personal information will be erased.

However, you should know, as nowadays not so many deaf students are involved in vocational education, there are some possibility that information presented in the study, might be indirectly associated with you.

### *Voluntary Participation*

I consider your experiences and perspectives as incredibly valuable and I will appreciate your participation very much; however the participation is voluntary and you can choose not to participate or withdraw from it any time you wish without stating reason.

The study has been notified to the Data Protection Official for Research, Norwegian Social Science Data Services.

If you would like to participate and/or have any questions concerning the project, you are welcome to contact me. My contact information: XXX XXXXXX

Thank you for your time spent on reading this letter

Sincerely,

Maia Tsuladze

## **Information Letter for the Vocational education Teachers**

### **Request for Participation in Research Project**

The Working Title: Vocational Education of Deaf Learners (the Georgian case).

Dear Teacher

I am a second year student at the Master Program of Philosophy in Special Needs Education at Oslo University, Norway. I am working on my Master's project aimed to investigate the teaching and learning process in the regular vocational education settings in Georgia, from the vocational teachers' and deaf learners' perspective. Thus, the study will be conducted with the both, deaf students (ex-students) and their vocational teachers.

#### *Participation in the Research*

As the vocational college you are teaching in is the participant of the pilot project “Introduction of Inclusive Education in Vocational Education and Training System in Georgia” and you are the one of the first teachers involved in deaf inclusive vocational education, it is very valuable to study your experiences and perspectives. The information provided by you will help to better understand how process of teaching and learning is currently held. The study does not intend to judge or criticize any aspect of teaching-learning process; the questions will mainly concern the communication and teaching strategies applied during the teaching and learning process; resources and challenges experienced in the course of learning and your opinion on how the existing practice can be enhanced in the future.

As the interview with vocational teacher indirectly will be about his/her deaf student, the permission to conduct it will be taken from deaf student as well. In addition, deaf student will have a possibility to see the interview guide intended for vocational teachers.

In case of desire, you can get the interview guide before the interview and before you give the consent to participate in the study.

#### *Collection and the Use of the Data*

The information will be collected through the interview, which will take approximately 30-40 min. and will be conducted at the place and time the most convenient for you. The interview

conversations will be audio recorded (supplemented by the researcher's written notes) and transcribed. All the perspectives and views expressed through the interview will be reported truthfully and in case of desire, you will have a possibility to check the accuracy of main findings and their interpretations. Your responses to the interview questions will be used only for the purposes of this study.

### *Confidentiality*

No one will have access to any type of interview material except me (researcher). No personal data will be used in the study report. All the personal information available for me will be held in strict confidentiality. After the submission of the project in July 2015, all records and personal information will be erased.

However, you should know in advance, as nowadays not so many vocational education teachers are involved in teaching of deaf students, there are some possibility that information presented in the study, might be indirectly associated with you.

### *Voluntary Participation*

I consider your experiences and perspectives as incredibly valuable and I will appreciate your participation very much; however the participation is voluntary, and you can choose not to participate or withdraw from it any time you wish, without stating reason.

The study has been notified to the Data Protection Official for Research, Norwegian Social Science Data Services.

If you would like to participate and/or have any questions concerning the project, you are welcome to contact me. My contact information: XXXXXXXXXX

Thank you for your time spent on reading this letter

Sincerely,

Maia Tsuladze

# Appendix 4

**A table of the Methods of Data Collection**

The main Method	Method of Data Collection	The purpose of the method used
		Qualitative semi-structured interview
Complementary Informal Methods	Observation of the setting - the classroom arrangement /learning spaces, equipment, other physical artifacts such as teaching-learning tools, technological devices, instruments.	Preparing oneself for interviews; gaining information about the context of the phenomena.
	Review of documents and different written sources:  Legislative and strategic documents regulating vocational education in Georgia (for e.g. Georgian Law on Vocational Education; State Strategy and Action Plan of Vocational Education of Students with Special Educational Needs);  Action plan of the project “Introducing Inclusive Education in Georgian Vocational and Training System;”  Syllabi of particular vocational programs;  Different monthly and annual reports on provision of inclusive vocational education in Georgia;  Web-page of the vocational education in Georgia;  Different statistical information;	Planning interview process, developing interview guides, gaining information about the context and different aspects of the phenomena.
	Informal discussions/conversations with the managerial staff of the project: “Introducing Inclusive Education in Georgian Vocational and Training System.”	Planning interviews; developing interview guides, gaining information about the context and different aspects of the phenomena;
	Focus group interview with the multidisciplinary group members of the Ministry of Education and Science of Georgia	Gathering information about the phenomena for strengthening validity

# Appendix 5

## Interview Guides for Deaf Learners and Vocational Education Teachers

### Interview Guide for Deaf Learner

Opening the Interview: You have completed vocational education; I would like to talk with you about the learning process and your learning experience.

#### The Learning Objective

1. Please tell me, what was your objective of receiving vocational education, what did you intend to achieve?

#### Teaching -learning mediated process

##### *Communication*

2. How did you communicate with your vocational education teacher and other students, what communication means did you use?
3. What were the main communication difficulties (if any) and what supported your communication with vocational education teacher, with other students?
4. In your opinion, what would support more your communication with vocational education teacher?

##### *Teaching strategies*

5. What type of difficulties did you have during the learning (if any)?
6. What type of procedures/support provided by the teacher helped you during the learning best?
7. In your opinion, what would support you more (if anything) during the learning?
8. What type of support did you have from the other professionals of the college?

### **Outcomes of teaching and learning**

9. What do you think are the outcomes of your learning process?
10. How do you think to use acquired vocational knowledge in a future?

### **Enhancement of Vocational Education for Deaf Learners**

11. Based on your experience, how vocational education can become more supportive for deaf in a future, what are your suggestions?

### **Summary Question:**

12. What else do you want to add or ask?

### **Background Information**

- What is your preferable mode of communication?
- Do you use hearing aids?
- What was the duration of your vocational program?
- How old are you?
- Which school you graduated from?

**Closing the Interview:** Thank you for giving time and sharing your experience and thoughts with me. Wish you success.

## **Interview Guide for Vocational Education Teachers**

*Note:* Within the interview guide the “student” is used instead of deaf student

**Opening the interview:** You already have experience to teach deaf student; I would like to talk with you about the teaching- learning process and your personal experiences of this process.

### **The Objectives of Teaching**

1. What does inclusion of deaf person in vocational education mean for you? Please bring your personal definition.
2. What was your main objective of teaching deaf student, what did you intend to achieve?

### **Teaching-learning mediated process**

#### ***Communication***

3. How did you communicate with your student, what communication means did you use?
4. What were the main challenges (if any) of your communication with the student and what supported it?
5. In your opinion, what would support more (if anything) your communication with the student?

#### ***Teaching Strategies***

6. What type of adaptations did your student necessitate (if any) during the learning?
7. What factors did influence your choice of teaching strategies for your student?
8. Based on your experience which teaching strategies were the most beneficial for the teaching and learning?
9. What was the main challenges and resources of teaching and learning process?
10. What type of support did you have from other professionals of the college?

### **Outcomes of the teaching and Learning**

11. What do you consider as the main outcomes of teaching and learning?
12. In your opinion, how received vocational education will support your student in a future?

## **Expansion of Vocational Education for Deaf Learners**

13. Based on your experience, how deaf vocational education can be developed in a future, what are your suggestions?

### ***Summary Question***

14. What else do you want to add or ask?

## **Background Information**

What is your teaching experience?

Have you had previous experience of teaching deaf learners?

How many deaf students did you have in a class at one time?

Have you undergone any special preparation to teach deaf students? If yes, what type of preparation?

**Closing the Interview:** Thank you for giving time and sharing your experience and thoughts with me. Wish you success.



# Appendix 6

## Examples of the Consent Forms

### Consent letter

*(For the students)*

The working title of the study: Vocational Education of Deaf Learners (the Georgian case)

Researcher: Maia Tsuladze

I have received and understood written and additional oral information given about the Master study project: Vocational Education of Deaf Learners aimed to investigate vocational teachers and deaf learners' perspectives on ongoing practice in vocational educational settings in Georgia; I have also received answers on all my questions regarding the study. I know that participation in the study is voluntary and I can withdraw from it any time.

My signature below indicates that:

- I want to participate in the study and my participation is voluntary.
- I give my permission to interview vocational teacher about his/her experiences of teaching me.

Name -----

Contact information-----

Signature -----

Date -----

**Consent letter**

*(For vocational education teachers)*

The Working Title of the study: Vocational Education of Deaf Learners (the Georgia case).

Researcher: Maia Tsuladze

I have received and understood written and additional oral information given about the Master study project: Vocational Education of Deaf Learners aimed to investigate vocational teachers and deaf learners' perspectives on ongoing practice in vocational educational settings in Georgia. I have also received answers on all my questions regarding the study. I know that participation in the study is voluntary and I can withdraw from it any time.

My signature below indicates that I want to participate in the interview and my participation is voluntary.

- I want to participate in the study and my participation is voluntary.
- I give my permission to interview my student about his/her experiences from my teaching.

Name -----

Contact information-----

Signature -----

Date -----

**Consent letter**

(For the sign language interpreter)

The Working Title of the Study: Vocational Education of Deaf Learners (the Georgia case).

Researcher: Maia Tsuladze

I recognize the importance of accurate interpretation without adding, missing and/or changing any part of information during the interview.

I also understand the significance of maintaining confidentiality of all the information available to me during the translation of interviews (regarding content and participants).

The signature below confirms my agreement regarding the accuracy of interpretation and confidentiality of information.

Name -----

Contact information-----

Signature -----

Date -----

# Appendix 7

Example of the a table used for the data analysis

Pre-defined theme/ Category	TA	TB	TG	Codes	Themes Emerged from the data
Communication	<p><i>Language is very important, but I did not have troubles with LG, and the same with my new deaf students. I was feeling that I have direct communication the student through body language, few signs, and fingerspelling;</i></p> <p><i>We almost did not have any challenges or problem; even when talking about private topics, we were able to do this without interpreter in minimal dosages. I can't recall moment, when we could not understand each other. Something was clear through body language, something not, but the student also helped me as well.</i></p>	<p><i>When the interpreter was not during the lesson, this did not create any problem to me. When it was difficult situation and LB did not understand what I told to him, I wrote on the paper simple phrases with two-three words, we have written communication too and visual through body. Based on fact that personally I did not have any problem, I was quite satisfied with the communication we had.</i></p>	<p><i>I used some primitive gestures, to show something, to direct his attention on something, I always used them. I mostly used body language, gesticulations which I thought was easy for the student to understand without any troubles.</i></p> <p><i>Of course, in more difficult situations I used help of the interpreter.</i></p> <p>(As was noted by the respondent further, this difficult situation was related with the communicational situation when the student could not</p>	<p>Use of body language/gesticulations, few signs, fingerspelling, simple (with two-three words) written phrases;</p> <p>Communicating directly with the students without challenges, problems.</p> <p>Always understanding each other (teacher-student) during the direct communication;</p> <p>Being personally satisfied with the direct communication;</p> <p>Existence of particular difficult situations when the student</p>	<p>Means of communication;</p> <p>Ease of communication;</p>

			understand what teacher was telling to him).	cannot understand teacher's messages.  Use of interpreter in particular communicational situations when the student cannot understand teacher's message.	
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# Appendix 8

## Focus Group Interview

**Participants of the meeting:** The members of the multidisciplinary team of the Ministry of Education and Science of Georgia involved in the monitoring of the inclusive vocational education process across the country.

**The number of the participants:** Three participants

**Duration of the meeting:** Around 1, 30 hours

### The main guiding questions:

How communication between deaf learners and hearing teachers, peers is held during the learning-teaching process?

What teaching strategies are applied by the teachers during the course of teaching and learning?

What are the main challenges and resources of the existing practice?

What are your suggestions regarding improvement of the current practices?

## Findings from the Focus Group Interview

Responses from multidisciplinary team members presented below, touches different aspects of teaching and learning process and mainly based on their observations.

**Means of communication** - Regarding means of communication, the focus group interview has revealed that during the teacher-deaf student direct communication mainly simple signs and gesticulations are used. The sign language is the main communication means during the lessons. Some hearing peers have learnt few signs for everyday communication with deaf classmates. Interactions between deaf students and their hearing groupmates is not problematic.

**Communication difficulties** - At times written instructions are also used by the teachers, with simple sentences, however, deaf students mostly cannot understand even very simple written notes and that written communication appears one directional (teacher-learner) as the

deaf students cannot replay. Teachers often overestimate deaf students' reading abilities. Another communication issue raised by the respondent is limited visual contact between teacher and deaf student during interpreter mediated communication.

**Challenges of teaching and learning** - Humors, group discussions, other students' answers and questions are not translated for deaf students, thus they are missing important parts of the lessons. Besides, during the theoretical lessons interpreter appears as the leading person. Concerning transmission of a content, according to the respondents interpreters often make changes of teachers' speech; they may add subjective understandings of a topic.

Explication of particular words and especially terms connected with vocation is one of the most problematic aspect mentioned by the focus group participants. Another issue stressed by the respondents relates to examinations of the theoretical part of vocational programs. Mostly they are not adapted to deaf learners needs. According to the respondents, in reality, such types of exams that are not adapted to deaf learners' needs and abilities, hardly can make deaf learners to demonstrate even minimum competences required by the exams. Teachers mainly oriented to make deaf students learn some answers by the hurt to pass exams, but students not always understand the content. Sometimes, practical exams are not structured sufficiently, there are no clear assessment criterions and deaf students not always aware about them.

Respondents, stated that adaptation of teaching strategies/tasks according to individual deaf student's needs is still challenging both for teachers and supporting specialists of the setting.

**Teaching strategies and learning materials** – According to the respondents, modeling/demonstration are the main strategy used during the practical part of teaching. Some teachers use visual materials during the theory; however, sufficient visual material/aids are lacking. Sometimes deaf student provided with written short texts before the lessons, but these texts are not always adapted to the deaf learner's abilities.

**Sign language interpreter** – According to the respondents, sign language interpreter is the main resource of the current deaf vocational education. In some cases, interpreters try to adapt content of reading texts and pass their modified version to a deaf learners. Sometimes interpreters make the written notes of lectures for deaf students. However, if interpreter for some reasons have to miss lesson, deaf student are not provided by another interpreter.

**Improving teaching-learning process** - According to the respondents, teaching should be more student-centered, with more involvement of deaf students and less directive teaching; besides, teachers should apply more diverse teaching strategies and use more individually adapted teaching. Further, ethical aspects while transferring information (for e.g. establishing face to face communication) should be taken into consideration.

**Increasing collaboration** -Participants stressed that even though inclusive educational specialists are the important resources for the college, they should be used more effectively; besides, respondents mentioned the need of increased collaboration among different actors of the process such as teachers, parents, supportive professionals, and sign language interpreters.

**Strengthening deaf learners' skills** -To help deaf learners to more succeed from the vocational education, respondents considered as a necessary to specifically approach and strengthen their writing and reading skills. Moreover, some deaf students requires improvement of sign language knowledge to sufficiently use sign language interpreter's support during the lessons.

**Improving sign language interpreting service** – The participants of the focus group stressed the need of beforehand preparation of sign language interpreters for interpreting in educational settings. Besides, they mentioned that Georgian sign language also needs further development; it is necessary to make terms related to particular vocational programs more available for all involved parts. In addition, administration of the colleges should resolve organizational issue related to enduring provision of sign language interpreting service to a deaf student and in case of one interpreters' absence, substitute her/him with another interpreter.



# Appendix 9

## The map of themes and sub-themes of the findings

Main Themes	Vocational education Teachers	Deaf learners
Objectives of Teaching and Learning	<ul style="list-style-type: none"> <li>• Understanding of inclusion</li> <li>• Teachers' objectives</li> <li>• Preconditions of teaching</li> </ul>	<ul style="list-style-type: none"> <li>• Learner's Objectives</li> </ul>
Mediation of Teaching and Learning	<ul style="list-style-type: none"> <li>• Means of communication</li> <li>• Ease of communication</li> <li>• Individual approach</li> <li>• Examination procedures</li> <li>• Challenges of teaching</li> <li>• Searching for suitable teaching strategies</li> <li>• The most effective teaching Strategies</li> <li>• Support from the community members</li> </ul>	<ul style="list-style-type: none"> <li>• Means of communication</li> <li>• Communication difficulties</li> <li>• Challenges of learning</li> <li>• Preferred teaching strategies</li> <li>• Support from the community members</li> </ul>
Outcomes of Teaching and Learning	<ul style="list-style-type: none"> <li>• Vocational competences</li> <li>• Employment possibilities</li> <li>• Self-realization and increased interest</li> <li>• Influence on other Students</li> <li>• Influence on teachers</li> </ul>	<ul style="list-style-type: none"> <li>• Vocational competences</li> <li>• Employment possibilities</li> </ul>
Enhancement of Vocational Education for deaf learners	<ul style="list-style-type: none"> <li>• Enhancement of teaching and learning practice</li> <li>• Enhancement of the employment possibilities</li> </ul>	<ul style="list-style-type: none"> <li>• Enhancement of teaching and learning practice</li> <li>• Enhancement of the employment possibilities</li> </ul>

# Appendix 10

## Interpreting of the findings based on Cultural Historical Activity Theory (CHAT)

