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Teachers' views on the practices of universal design for learning

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Abstract

This study aims to identify teachers' views regarding the Universal Design for Learning (UDL) practices. Having a phenomenological design in accordance with qualitative research paradigm, the study hosted a total of 55 teachers working in the central districts and villages of Kahramanmaraş in Turkey during the academic year of 2021 and 2022. The research data were obtained using a semi-structured interview form, and descriptive and content analyzes were used during data analysis. Examining teachers' views on Universal Design for Learning (UDL), this study revealed that the majority of teachers reported positive views regarding Universal Design for Learning (UDL) practices. They also stated that UDL practices would contribute to support individual differences in education, high-level efficiency, equality of opportunities in education, addressing everyone, versatile learning, facilitating learning, ensuring permanence, facilitating access to information, increasing the quality of education, and improving self-expression skills. However, they were determined to lack the necessary knowledge and skills in this regard (teaching students with different disabilities, teaching students from different cultural backgrounds, etc.). They also concluded that their schools did not have the necessary infrastructure and equipment.

Keywords: Universal learning design; teachers' views, universal design, inclusive education

1. Introduction

All individuals vary across psychological, social, physical, cognitive features etc., all of which positively or adversely influence many areas of their lives. For instance, the functioning of individuals' cognitive processes and their preferences to use them affect their learning and thus their academic achievement. Considering individuals' different learning characteristics in educational environments will contribute to ensuring equality of opportunity. Educational institutions bear tremendous responsibility to warrant that

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all differences take advantage of education and training opportunities in the outstanding and most effective way. Efforts continue in our country and around the world to ensure that all individuals profit by educational opportunities. Universal Design for Learning (UDL) has emerged in accordance with such studies.

Universal Design for Learning is grounded on the implementation of Universal Design (UD) used in architecture in educational environments. Universal Design originated in architecture by Ron Mace, an architect with disabilities, opposed against the common practices of retrofitting buildings and physical spaces to accommodate people with disabilities, suggesting instead that designers take into consideration the needs of the widest range of users from the beginning of the planning process with the aim of benefiting all users (Dalton and Proctor, 2007). The term has been applied from the outset to the idea of designing and creating new structures and public places accessible to all (Mace, 1998). Laws mandating universal access have led to extensive renovations to buildings by adding ramps, elevators, audible signals, and other access devices (Rose and Meyer, 2002). Just as sidewalks improve access for all, Universal Design in Teaching (UDL) elements that embrace curricula and materials can be expected to improve for all students (Pisha & Coyne, 2001). UDL requires not only accessible information, but also an accessible pedagogy. The framework of UDL is based upon findings from cognitive neuroscience that describes the individual needs of learners (Rose, Harbor, Johnston, Daley & Abarbanell, 2006). Three primary principles that guide Universal Design (UDL) for Learning (CAST, 2011) are as follows: (1) *Providing Multiple Means of Representation*: Each student varies across their characteristics and perceptions in terms of information that is presented to them. This diversity may have different sources such as disabilities, learning levels, cultural differences, and communication problems; therefore, the content to be presented should be created by taking these differences into account. (2) *Providing Multiple Means of Action and Expression*: Learners have different ways of expressing what they know. This difference may be caused by various reasons such as students' disabilities, habits, the way they use their body language and the way they perceive the world, their imagination, cognitive abilities as well as the level of using their motor skills. Providing action and expression is essential in teaching. (3) *Providing Multiple Means of Engagement*: Learners differ substantially in the ways in which they can be motivated or engaged in the environment. This may be due to a variety of reasons such as students' interests, level of knowledge, habits, culture of the environment they live in, abilities and personal characteristics. Providing multiple methods of engagement for students is essential.

Universal Design for Learning (UDL) aims at ensuring that individuals' access to common curricula based on the accessibility features of buildings. UDL is an inclusive pedagogy developed by David Rose and his team at Harvard University (Rose & Meyer, 2002). UDL seeks to improve learning and teaching for all, grounded in scientific data on how individuals learn (CAST, 2020). UDL is to remove or reduce environmental restrictions on access to information for individuals with different educational needs and preferences (Burgstahler, 2001). As students' abilities differ, their educational needs and preferences also vary. UDL has focused on increasing the access of all students to general education curricula by minimizing barriers (Wehmeyer et al., 2003). Universal Learning

Design encompasses the development of curriculum and instruction. It is "a framework that addresses creating flexible goals, methods, materials, and assessments that work for everyone" (CAST, 1998). The UDL guidelines provide a framework for designing courses that will support and be accessible to all learners, taking into consideration the differences among students during curriculum development (Scanlon, Schreffler, James, Vasquez, Chini, 2018). The UDL framework provides valuable information on how to account for student variability when planning instruction. Implementing these small changes in teaching reduces barriers to learning by providing students with clarity and comfort. This, in turn, can increase success and satisfaction (Harshbarger, 2020). With the right materials, technology and education, teachers can make all lessons flexible enough to benefit every student, including students with disabilities (Pearson, 2015; Vitelli, 2015).

In its early years, UDL's focus was on the use of technology to facilitate accessibility. It was later recognized as the didactic pedagogy that facilitates the accessibility of various students to the curricula (Burgstahler, 2009). New multimedia learning tools, including increasingly prominent classroom computers, offer students and teachers an exciting new set of options for capture, storage, retrieval, and display of information in non-textual formats such as images, sound, and video. UDL recommends that these tools be used for developing a new generation flexible curriculum and materials that accommodate each student's unique strengths, weaknesses, styles, and interests (Pisha & Coyne, 2001).

Upon analyzing the studies conducted on Universal Design for Learning (UDL), most of them were identified to focus on students with disabilities. The purpose of the studies was to identify the effect of UDL practices on students with various disabilities and other students in the same educational environment (Abrahamson, Flood, Miele & Si, 2018, Carrington et al.; Coppola, Woodard & Vaughan, 2019; Dymond et al. 2006; Gauvreau, Lohmann & Hovey, 2019; Katz, 2013a, Katz, 2013b; Hazmi and Ahmet, 2018; Luangrungruang and Kokaew, 2018; King-Sears, 2014; Taunton, Brian & True, 2017; Tobin, 2014). Some other studies on UDL reveal the effect of organizing different courses on the basis of this design (flexibility of content, method, material, etc.) on student achievement and attitude (Kitanosako, 2012; Monafo, 2017; Rodriguez, & Henning; 2019) and in different cultural structures (Tegmark et al., 2011; Smith, 2012; Van Garderen & Whittaker, 2006).

Some studies on UDL also concentrated on the lack of having necessary equipment by teachers, why they should have this equipment, and how they improve themselves with the trainings (Edyburn, 2010; Ginsberg, 2005; He, 2014; Tomlinson, 2001; Villegas and Lucas, 2002; Vitelli, 2015; Westine et al., 2019). For teachers to be able to perform their jobs successfully, they need to be trained with knowledge, skills and attitudes both before and during the service. The fact that teachers are well trained about students' individual differences (learning differences, socio-cultural differences, mental/physical disability, etc.) will enable them to be more conscious and successful in issues such as better planning teaching activities, arranging teaching environments, implementing, evaluating student achievement, and maintaining discipline in the classroom.

The relevant literature outlines the limited number studies on UDL in Turkey. Few studies examine the effect of applying the UDL principles in some courses on attitude and achievement (Batmaz, 2018; Yüzlü, 2017; Yavuzarslan, 2018; Çakır, Memnun, 2019; Şenel, Şenel, & Günaydın, 2019). There is no such a study specifically published on identifying different cultural characteristics and teachers' competency and training on this subject. Thus, this study attempts to determine teachers' views on the subject after a short introduction of UDL, and to contribute to further studies and implementations. *The problem statement of the study was that: What are the teachers' views on Universal Design for Learning practices?*.

Aim of Research

The aim of this study is to determine teachers' views regarding the Universal Design for Learning (UDL) practices. In service of this aim, answers for the following questions were sought.

1- What are the teachers' views regarding UDL practices?
2- What are the practices that teachers perform for students with different learning characteristics?
3- What are the teaching practices for disabled students?
4- What are the teaching practices applied to students from different cultures?
5- What is done in schools to ensure that students with different characteristics (ability, disability, culture, etc.) have access to information?

2. Method

This part presents the research method, design, research group, data collection tools, data collection and analysis.

2.1 Research Design

This study had a phenomenological design, which is one of those used in the qualitative research method aiming to explain the phenomena that we are aware of but do not have deep knowledge (Yıldırım & Şimşek, 2013; Büyüköztürk et al, 2019). Phenomena can be expressed as events, experiences, perceptions, orientations, concepts and situations that we experience in our daily life (Yıldırım & Şimşek, 2013). The most significant purpose of phenomenological studies is to define the common meaning of lived experiences related to a phenomenon (Creswell, 2013). This study examined teachers' views on Universal Design for learning practices in depth. The interview method used in data collection includes verbal determination of the individuals' views and thoughts about an event or phenomenon (Yıldırım & Şimşek, 2013). The aim in this method is to reveal the variables that determine what and why the participants think, their emotions, attitudes, feelings and behaviors (Ekiz, 2003).

2.2. *Research Group*

The research group of this study consisted of 55 teachers working in the central districts and villages of Kahramanmaraş in Turkey during the academic year of 2021 and 2022. The study employed maximum variation sampling within the scope of purposive sampling meth

od. Purposive sampling methods are used to explore a variety of events and phenomena and to make relevant explanations in this direction. The purpose of maximum variation sampling is expressed as reaching a small sample group at the maximum diversity level that is thought to provide the desired data compared to all individuals who can be a party to the research and carrying out the study with this group (Yıldırım & Şimşek, 2013). Maximum variation was ensured with the participation of teachers from different socio-economic regions, branches and educational levels. In the maximum variation sampling method, the reserch group is determined in such a way that it can consist of homogeneous, variable and different situations related to the problem. The aim here is not to generalize but to focus on the common denominator of various situations (Karataş, 2015). Table 1 depicts demographic features concerning the participants.

Table 1. Demographic Information Regarding The Participants

		f
Gender	Female	39
	Male	16
Seniority	1-5	19
	6-10	10
	11-15	7
	16 and above	3
Branch	Mathematics	15
	Turkish Language	14
	Science	13
	Physical Education	5
	Special Education	5
	Primary School Teacher	2
	Computer Technologies	1
Place of Duty	Center	35
	Village	20
Grade	Primary school	19
	Secondary School	36

As in Table 1, 39 of the participants are female and 16 are male teachers. The seniority of the teachers ranges from 1-5 to 16 years and above. Their branches are respectively mathematics (f=15), Turkish language (f=14), science (f=13), physical

education (f=5), special education (f=5), religious culture and ethics (f=3), computer technologies (f=1). Besides, 35 of the teachers work in the central districts of Kahramanmaraş and 20 in the villages.

2.3. *Data Collection Tools*

Since the most important data source for phenomenological studies is the interviewers (Baltacı, 2018), this study employed interview method and the data were collected through a semi-structured interview form. At first, it was tried to determine whether the teachers had knowledge about Universal Design for Learning (UDL). After it was determined that the teachers did not have any knowledge, an information meeting about UDL was held with the teachers. After the necessary information was presented, the data collection tool was administered at certain time and place.

The interview form prepared by the researcher with a pool of questions was presented to the views of a faculty member who works as the author of the book "Universal Design for Learning" published in Turkish and an education expert who has research on this subject, and the general framework of the study was determined. This framework includes Universal Design for Learning (UDL) principles and performance indicators. The first part of the interview form consists of 6 open-ended questions to determine the teachers' views, and the second part encompasses 9 closed-ended questions containing performance indicators. 5 education experts reviewed the data collection tool, and 9 close-ended questions containing performance indicators were excluded to be used in another research since they included similar statements.

By having 5 experts in the field of Educational Sciences fill out the form, the questions were examined in terms of structure, content and language validity, and one more question was removed from the interview form due to similar responses. Teachers' views on Universal Design for Learning practices were supported with direct quotations in order to ensure internal validity. The research method was defined in detail to warrant external validity. In order to determine the reliability of the research data, the data were coded independently by an expert from educational sciences except for the researcher. Reliability = Consensus/(Consensus + Disagreement) x100 formula was used to calculate the reliability (Miles & Huberman, 1994). Accordingly, the reliability was identified as 86% for the 1st question, 89% for the 2nd question, 88% for the 3rd question, 92% for the 4th question and 94% for the 5th question. This formula requires that the reliability of the research must be above 80% (Miles & Huberman, 1994).

2.4. Data analysis

Descriptive and content analysis techniques were used during data analysis. Descriptive analysis helps to present the participants' views in a striking way by allowing direct citation. The findings in this analysis technique are conveyed to the reader in a logical, understandable and organized manner (Yıldırım & Şimşek, 2013). Content analysis highlights that data is defined and the facts that may be hidden behind data are tried to be revealed (Yıldırım & Şimşek, 2013). The codes and themes were determined by examining the teachers' views on Universal Design for Learning in detail.

The frequencies of the codes are displayed in tables. In addition, some direct quotations were used in order to make the findings in the tables more precise and obvious.

3. Results

This part presents findings related to the teachers' views on the Universal Design for Learning (UDL) practices. All findings were depicted in Tables and interpreted. Upon analyzing the codes, it was found appropriate to thematize the codes regarding all sub-problems for Universal Design for Learning (UDL) as positive and negative. Table 2 displays teachers' views on Universal Design for Learning (UDL) practices.

Table 2. Teachers' Views on Universal Design for Learning

Theme	Codes	f
Positive View	Supporting individual differences in education	21
	High efficiency	15
	Equality of opportunity in education	13
	Addressing everyone	13
	Versatile learning	13
	Facilitating learning	12
	Ensuring permanence	12
	Facilitating access to information	12
	Increasing the quality of education	9
	Ability to express oneself	7
	An alternative practice	7
	Supporting interests and talents	6
	A necessary practice	6
	Support for students with special needs	6
	Making all students feel special	5
	A universal practice	4
	Remarkable in scope and purpose	3
	Urgent need for students	3
	Functional when applied	2
	Positive results in academic terms	2
	Richness for students	2
	Beneficial in social matters	2
	Being a priority in our education systems	1
	Convenient for all developmental levels	1
Negative View	Teachers' lack of knowledge	1
	Inability to apply to all differences	1
	Consideration of additional financial burden	1
	Good in theory but difficult in practice	1
	I've heard it for the first time, I don't know	1

As is seen in Table 2, 24 codes emerged under the theme of positive views of teachers towards Universal Design for Learning (UDL). Some of these codes are: support for individual differences in education, high level of efficiency, equality of opportunity in education, addressing everyone, versatile learning, facilitating learning, ensuring permanence, facilitating access to information, increasing quality in education, and ability to express oneself. The following statements exemplify this finding:

"I think that universal design practices are a richness for learning. Because learning cannot take place if students do not use alternative methods and techniques with different characteristics."

"When put into practice, it can be very functional and it can develop students' capacity at a high level."

"I believe that universal design for learning will have positive results for the teacher and the student. In particular, it will provide students with equal opportunities in the practices."

The negative codes mentioned by the teachers for UDL are listed as teachers' lack of knowledge, inability to apply to all differences, additional financial burden, good in theory but difficult in practice, I heard it for the first time, I don't know. Here are the following excerpts exemplifying this finding:

"I think the teachers are not knowledgeable about this issue. There is a need for in-service training in order to apply universal design for learning. Even I've only just heard of it."

"Schools need to be enriched in terms of technological opportunities and other teaching materials in order to implement universal design in teaching. These will also lead to additional financial burden."

"When I heard it, I thought it was a romantic design, but considering the facilities of the schools, the curricula, the characteristics of the teachers and students, I think it will be good in theory but difficult in practice."

Table 3 shows the findings regarding the practices made by teachers for the students with different learning characteristics within the scope of Universal Design for Learning (UDL).

Table 3. Teachers Practices for Different Learning Characteristics

Theme	Codes	f
Positive View	Application suitable for individual differences	25
	Games suitable for the lesson	13
	Activities with smart board	11
	Active learning techniques	11
	Collaborative practices	10
	Methods suitable for learning styles	9
	Accompaniment with rhythm instruments	9
	Visual representation	7
	Internet	5
	Lecture using material	3
	Video and other apps	3
	Group work	2
	Problem solving practices	2
	Question-answer	2
	Karoake	2
Negative View	Lack of conditions and opportunities	17
	Different application difficulty in crowded classrooms	15
	Tendency to traditional practices	13
	Impossibilities	9
	Failure to complete the curriculum	5
	Lack of knowledge and experience	5

Table 3 demonstrates 15 emerging codes under the theme of positive views about the practices that teachers used for the students with different learning characteristics. Positive views are listed as application suitable for individual differences, games suitable for the lesson, activities with smart boards, active learning techniques, collaborative practices, methods suitable for learning styles. The following statements present teachers' views:

"First of all, I get information about the students through various activities in the school environment in order to distinguish their characteristics. I create a diverse learning environment through visual, auditory and educational games in the classroom."

"Each student has interests and talents. Their intelligence types differ. That's why I perform practices that will appeal to them as much as I can."

"I organize activities that provide an opportunity for each student's active participation. I use activity cards, educational games, and visual materials. I support students' learning characteristics with individual and group activities."

The frequencies of the emerging codes under the negative view theme regarding the practices for different learning characteristics were determined to be higher. These

were; lack of conditions and opportunities, different application difficulty in crowded classrooms, tendency to traditional practices, impossibilities, failure to complete the curriculum, lack of knowledge and experience. Some of the teacher's views are shown as following:

"Due to the impossibilities of our school, we do not have much access to visual materials. That's why I can't spend much time to such practices."

"I cannot make different practices since I do not have such an opportunity."

"I cannot do different practices in classes with 40 students."

Table 4 suggests the findings regarding the practices that teachers did/can do for students with different disabilities within the scope of Universal Design for Learning (UDL).

Table 4. The Practices That Teachers Did/Can Do for the Students with Disabilities

Theme	Codes	f
Positive View	Teaching according to their disabilities	5
	Individualized teaching	5
	Activity appropriate for each level	3
	Exam appropriate for each level	3
	Less profitable workshops	1
	Concrete materials	1
	Concretizing the lesson	1
	Drama	1
	Peer support	1
	Different assignments	1
	Material designed for each disability	1
Negative View	I can't perform any practice	15
	Consulting an expert	11
	Lack of sufficient knowledge	7
	Doing research	5
	No such a student	5
	Lack of support training	5

Upon analyzing Table 4, some of the codes created by the teachers who expressed positive views on the practices that they did/can do for students with disabilities were identified as; teaching according to their disability, individualized teaching, activity appropriate for each level, support education, and exam appropriate for each level. The following quotes manifests this finding:

"First of all, I talk to the parents of the student with a learning disability to find out if he or she has any health or mental problems. If the student has a problem, I teach according to the status of his/her report.

"I support my visually impaired students with audio materials. Of course, the opposite is also valid, then I would support the students with videos."

"I act within the individualized education plan prepared for the student. I am working for completing the student's learning outcomes and increasing their socialization skills in the classroom.

Considering the teachers' views on the practices they did/can do for students with disabilities within the scope of Universal Design for Learning (UDL), the frequency of the emerging codes was found to be higher in terms of negative views. Teachers mostly stated that they could not practice on this subject without receiving any training. The generated codes were; I cannot practice, consulting an expert, lack of sufficient knowledge, doing research, lack of such a student, and receiving support training. The following excerpts demonstrate some teachers' views:

"I need to consult an expert as I have little knowledge on this subject."

"I never had a student like that, so I never thought about it… when I had, I would do research and practice."

"Unfortunately, there is no suitable support education and environment at school."

The findings regarding the practices of teachers for the students from different cultural backgrounds within the scope of Universal Design for Learning (UDL) are presented in Table 5.

Table 5. Practices Done/Can Be Done by Teachers for Cultural Differences

Theme	Codes	f
Positive View	Getting to know different cultures	11
	Universal games	5
	Doing one-on-one study	5
	Group studies	2
	Science is universal, universal techniques	2
	Researching texts and stories from that culture	2
	Researching what culture the student comes from	2
	Samples appropriate for the culture	2
	Smart board	1
	Online apps	1
	Sports activities	1
	Extracurricular activities	1
Negative View	Teachers are not equipped	15
	Lack of knowledge	15
	Lack of training on this subject	13
	Don't think there is a difference	11
	Trying to combine different cultures	11

Universal Design for Learning (UDL) attaches great importance to the consideration of these characteristics of individuals from different cultures in educational environments. Table 5 illustrates the themes and codes for the practices that teachers did/can do for the students from different cultures. The emerging codes under the theme of positive view were as follows; getting to know different cultures, universal games, one-to-one study, group studies, science is universal, universal techniques, researching texts and stories from that culture, researching what culture the student comes from. Some of the teachers' views on these findings are suggested below:

"First of all, I would research what cultural background they have, I would try to increase their motivation by finding games, songs and stories belonging to that culture."

"The child is a child in every culture and has similar developmental characteristics. Therefore, teachers instruct using the same techniques in many cultures. I also do my lessons using universal techniques."

"Learning is individual. Each student's learning characteristics are also different from each other. I find it appropriate to do individual teaching in order to increase the success of students from different cultures."

The codes generated by the teachers with negative views are listed as: the teachers are not equipped on this subject, lack of knowledge, not receiving training on this subject, not thinking that there is a difference, and trying to combine the differences. In this regard, the frequency of the codes in the negative view theme was higher compared to the positive view theme. The following quotes exemplify this finding:

"I don't find it right that different cultures cause differences in teaching, therefore I focus on the harmony of differences… I try to turn it into an advantage."

"There are foreign students at the school where I work now, I have hard times because they do not understand the (Arabic) language from a different culture. I have to teach the subjects superficially because they have comprehension and speaking problems."

"All of my students are foreigners, but I use the current curriculum. Of course, I'm having a lot of trouble because of the cultural difference. I educate rather than teach. Even that is not enough."

The findings regarding the Practices in schools within the scope of Universal Design for Learning (UDL) are shown in Table 6.

Table 6. Teachers' Views on the Practices in their Schools within the Scope of Universal Design for Learning

Theme	Codes	f
Positive View	Utilizing technological elements	5
	Counseling unit is on active duty	5
	Support training room	3
	Support for the visually impaired in exams	3
Negative View	Lack of different practices in the school	37
	No practices except for compulsory sinks	33
	Only disabled platform	31
	Lack of information about this in schools.	23

Table 6 highlights the themes and codes with regard to the teachers' views about the practices made for Universal Design (UDL) for Learning in the schools where they work. 4 codes emerged under the theme of positive view. These are; utilizing technological elements, active guidance unit, support training room, support for the visually impaired in exams. Some of the teachers' views are presented below.

"Support training is provided. If the disability is physical, the classroom in the first floor is used. Our school's guidance service is actively working…"

"…Some applications are made on phones, tablets etc. within the scope of technological developments."

"I try to upload the textbooks and information and show them to the students on the smart board… We are trying to gain access to the information."

4 codes were generated under the theme of negative view. Teachers stated that nothing is done in their schools other than compulsory practices for the disabled. Generated codes; There is no different practice in the school except for the compulsory washbasins, only the disabled platform, there is no information on this issue in the schools. Some of the teachers' views are exemplified as such:

"There are special washbasins only for them… Different applications are not made on a school basis…"

"Nothing is being done at our school… there are some practices on paper. We don't know about them..."

"There are not enough practices in this sense in our school. There are only washbasins for disabled required by the state…"

4. Discussion

Examining teachers' views on Universal Design for Learning (UDL), this study revealed that UDL practices were significant and beneficial in general. However, the teachers pinpointed that they had insufficient knowledge and skills in this regard, and that their schools did not have the necessary infrastructure and equipment.

Upon analyzing teachers' views, the majority of them were found to have positive views regarding Universal Design for Learning (UDL) practices. Teachers remarked that UDL practices would contribute to support individual differences in education, high-level efficiency, equality of opportunities in education, addressing everyone, versatile learning, facilitating learning, ensuring permanence, facilitating access to information, increasing the quality of education, and improving self-expression skills. The results of the studies within the relevant literature indicated that UDL makes information accessible to those with different learning needs and preferences (Burgstahler 2001; Rose and Mayer, 2002 and Wehmeyer et al., 2003). The teachers' negative views towards UDL were listed as teachers' lack of knowledge, inability to apply to all differences, additional financial burden, good in theory but difficult in practice, I heard it for the first time, I don't know. One of the purposes of teachers' practices related to Universal Design for Learning (UDL) is to plan and implement different teaching activities for students having different learning characteristics. Flexibility must be provided for all students in terms of methods, techniques and materials. The participants stated that they tried to make practices suitable for the students' individual differences. They also used games suitable for the subject, activities with smart boards, active learning techniques, cooperative practices, and methods suitable for their learning styles. Most of the teachers indicated that they could not perform these practices for various reasons.

Specifying that they were insufficient in making practices for different learning characteristics, the teachers explained the reasons as the lack of conditions and opportunities, different application difficulties in crowded classrooms, tendency to traditional practices, impossibilities, unable to finalize the curriculum, lack of knowledge and experience. In their study, Westine et al. (2019) implied that most of the instructors working at universities admitted their lack of knowledge about UDL. Vitelli (2015) stated that students with disabilities are increasingly educated in inclusive learning settings, yet teachers do not receive adequate training for meeting these students' learning needs. The researcher also emphasized that UDL should be included in pre-service teacher preparation programs.

Considering teachers' views on the practices they did/can do with the disabled students within the scope of Universal Design for Learning (UDL), the frequency of the emerging codes was found to be higher in the theme of negative view. The generated codes were consulting an expert, lack of sufficient information, doing research, not having such a student, and receiving support training. The participants also had positive views about the practices they did/can do for students with different disabilities as teaching according to their disability, individualized teaching, activity appropriate for each level, support training, and exam appropriate for each level. Joint curricula include an increasing number of students with disabilities related to sight, hearing, mobility, learning, social interactions, health, etc. (Burgstahler, 2009). Pearson (2015) claimed that with the right materials, technology and training, teachers can make all lessons flexible enough to benefit every student, including students with disabilities. Studies in the related literature also report that UDL practices present effective results for students considered disabled and others (Tobin, 2014; Rose, 2001; Katz, 2013b; Dymond et al. 2006; Abrahamson, Flood, Miele, & Si, 2018; Hazmi and Ahmet, 2018; King-Sears, 2014; Carrington et al. 2020; Shoup, 2016; Carrinton et al., 2020). Many studies indicate that

teachers and preservice teachers generally do not have the knowledge or skills necessary to successfully work with students having disabilities (Gill, Sherman, & Sherman, 2009; Lohrmann & Bambara, 2006; Vitelli, 2015).

It is essential to consider these characteristics of individuals from different cultures in the education-teaching environments of Universal Design for Learning (UDL). Cultural origin influences individuals' cognitive processes, which leads the learning preferences to differ. According to Banks (1996), factors such as race, social class, and language profoundly affect students' thoughts, values, beliefs, and behaviors. V.Garderen and Whittaker (2006), Nisbett and Miyamoto (2005), Tegmark, Gravel, Lourdes, B. Serpa, Dominings, and Rose (2011) also maintained that learning is affected by the culture one lives in. Thus, it is essential for teachers to make their education-teaching environments flexible by taking these differences into account. This study pointed out that teachers did not consider themselves competent in taking cultural differences into consideration. They stated that they are not equipped in this regard, that they have a lack of knowledge and they are not trained on this subject. Bedir (2021) noted that schools in many countries are diversified in terms of race, culture, language, learned stereotypes and learning ways as a result of various migration events around the world and their results. Educators should consider how students' differences affect learning and they should be able to make pedagogical arrangements that address this diversity. Some teachers also mentioned that there is not a difference and they struggle to combine the differences. In this regard, the frequency of negative codes was determined to be higher than the positive ones. This may be due to the lack of a course on this subject in teacher training programs. Teachers having positive views listed them as trying to get to know different cultures, universal games, one-to-one work, group work, science is universal, universal techniques, researching texts and stories from the culture, and researching which culture they come from. Van Garderen and Whittaker (2006) examined the use of UDL principles together with equality pedagogy while planning their lessons culturally and linguistically, referring that multicultural education reduces the success gap.

The findings also showed that there were no different practices and no information was given in line with the Universal Design for Learning (UDL) principles, except for the compulsory practices (handicapped washbasin, disabled platform). lohman and Behling (2018) asserted that many higher education institutions are unsure about how to support various student groups, including students with disabilities. Few of the teachers accentuated that they benefited from technological elements, that the guidance unit was active, that they had support units and they supported the visually impaired in the exams.

5. Recommendations

The studies conducted on equality of opportunity in education in Turkey and around the World highlighted that educational opportunities are tried to be provided for students with many different learning characteristics, cultural backgrounds and disabilities. Therefore, it is of great importance to diversify the practices so that all students with

these differences can benefit from the educational environment at the maximum level. The research results suggested that although the majority of the teachers had positive views on Universal Design for Learning (UDL) practices, they did not know how to do it, especially for the students with different cultures and disabilities.

Based upon this result, informative courses may be organized so that teachers perform flexible educational practices; furthermore, contribution can be made to more inclusive classroom practices. It is also recommended to include the "Universal Design for Learning" course in teacher training programs in order to have preservice teachers trained with the necessary equipment. Besides, the level of effectiveness of UDL principles may be identified by conducting experimental studies on this subject at different education levels.

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