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Teachers 'Mindset and Its effect on Their Understanding of Students' Behavior, Learning, and Achievement in Classroom

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Abstract

The present study investigated the relationship among teachers 'mindsets and their perceptions of students' behavior, learning, and achievement, their interpretations of students 'behavior, and their strategies to increase students' motivation through a qualitative approach and a descriptive phenomenological design.The target population of this study includes all female primary school teachers in District 1 of Yazd city. Initially, 18 teachers volunteered to participate in the study, according to the call. Then, they completed mindset questionnaire and after evaluating the answers and determining teachers' mindset, 5 teachers were purposefully selected for a more profound and more extensive study. The data were collected using Dweck's Mindset Questionnaire (2000) and Semi-structured interviews. Content analysis was used to analyze the data and the results showed that the relationship between teachers 'mindsets and their perceptions of students' behavior, learning, and progress could be traced through the categories such as fixed mindset's teacher, growth mindset's teacher, and six factors including stereotypes, performance interpretation, evaluation, instruction, motivation, and responsibility. In general, it can be said that teachers 'mindset affect the way, they interpret students' behavior, learning, and success, it is influential on teachers' instructions, evaluations, and responsibilities in the teaching process as well as the type of activities that they use to increase students' motivation. Furthermore, the results showed that teachers' mindsets are intertwined with cultural assumptions; and teachers can be made aware of cultural challenges by increasing their level of knowledge and modifications of their mindsets.

Keywords: fixed mindset, growth mindset, teacher's perception

Introduction

Since teachers are one of the critical components of the educational system, so any shortcomings in other components of this system are affected by them. Consequently, any education reform is not possible without teacher reform. Since the teachers' mindset is related to his behavior in the classroom, any correction and change must start from the teacher's mindset and behavior (Shabani, 2013).

Dweck's theory of mindsets (2000, 2006) deals with implicit beliefs that individuals have about essential human characteristics. People with a growth mindset believe that intelligence, personality, and abilities can be changed and developed, and people with a fixed mindset believe that these qualities are fundamental, fixed, and unchangeable. Individuals have general tendencies toward one mindset or the other, but it is also common to have different mindsets in various domains of the self and others (e.g., intelligence, personality, and talent) (Dweck & Molden, 2006; Kussisto, Laine, & Tirri, 2017).

Individuals' mindsets, however, do not function individually, but are connected to a network of specific beliefs of individuals that form the system of their meaning structures, and this system of meaning makes people understand themselves as well as others and

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guides them to make sense of their social experiences (Rissanen, Kuusisto, Hanhimaki, & Tirri, 2013). People with a growth mindset interpret people's behavior based on context-dependent psychological processes, or in other words, describe a person's behavior according to the context and mental state of the person in that context, while people with a fixed mindset emphasize on deep characteristics of inter-situations as a critical reason for behavior (Molden & Dweck, 2009; Plaks, Levy, & Dweck, 2009).

Previous research has shown that people's fixed mindsets are associated with stereotyped behaviors and thoughts (Rydell, Hugenburg, Ray, & Mackie, 2007).

Implicit theories are discussed in the educational system. Research has also shown that teachers' mindsets about their ability will impact their classroom behaviors, their instructional approaches (Swann & Snyder, 1980), their sense of self-efficacy (Strosher, 2003), and how they view their performance over time (Plaks, Strosher, Dweck, & Sherman, 2001).

Furthermore, teachers' mindsets of intelligence greatly influence their behaviors and interactions with students (Georgiou, Christou, Stavrinides, & Panaoura, 2002; Rissanen, Kuusisto, Tuiminen, & Tirri, 2019). In addition, teachers play a critical role in influencing students' beliefs about their ability (Schmidt, Shumow, & Kackar-cam, 2015). For example, growth mindset teachers encourage their students to work harder because they believe that students can do better. Teachers can also influence students' perceptions of their abilities and increase their motivation to succeed (Schmidt et al., 2015). Specifically, fixed mindset teachers often encourage their students 'basic attributes such as intelligence (Jonsson & Beach, 2012), which negatively affect students' learning, motivation and perseverance of effort (Müeller & Dweck, 1998). Kärk-käinen and Räty (2010) found that students 'interpersonal and intrapersonal perceptions of their potential for progress tended to be related to their teachers' perceptions. Shim, Cho, and Cassady (2013) indicated that although the effects of teachers' mindset on students' intelligence was meager, there was a significant relationship between teachers' mindset and their performance structure in the classroom.

According to what has been said above, different mindsets explain why students with the same abilities in different situations have different developmental goals and behavioral patterns, and thus exhibit differences in learning processes and outcomes (Dweck & Leggett, 1988). Students with a fixed mindset emphasize performance goals (to look smart, providing their ability) and tend to avoid challenges. In contrast, students with a growth mindset emphasize learning goals (becoming smart, improving abilities), appreciation of effort, and understanding failures as learning opportunities (Dweck & Leggett, 1988). Students with a dynamic mindset are more successful in challenging situations, and the rate of continuing education of these students during academic years was higher for these students than the other students (Yeager & Dweck, 2012).

Individuals 'mindsets are relatively stable, but can change through educational interventions, and even brief interventions can have long-term effects on students' motivation and progress (Rissanen et al., 2019). The main features of such interventions has been to teach students about the brain's flexibility and its potential to change and reorganize as they learn and practice new ways of thinking (Dweck, 2012; Paunesku, 2013; Yeager & Dweck, 2012). Schmidt et al. (2015) asserted that teachers play an essential role in supporting classroom interventions in changing students' mindsets. Furthermore, teachers 'perceptions of the reasons for students' behavior and especially their mindsets about intelligence, shape their behaviors and interactions with their students (Rissanen, Kuusisto, & Tirri, 2018). Fixed mindset teachers often confront students with their limited abilities when they fail (Ratan, Good & Dweck, 2012), and this type of feedback negatively affects students' motivation and perseverance (Müller & Dweck, 1998). On the other hand, teachers 'mindset about students' intelligence predicts their views on the extent of their responsibilities towards student performance; teachers with a fixed mindset about students 'ability, feel less responsible for their student's academic performance and education (Patterson, Kravchenko, Chen-Buk, & Kelly, 2016; Reisans et al., 2018). A study of the research background shows that individuals 'mindset acts as the previous mechanisms of motivation (Sarrasin, Nenciovici, Foicy, Duquette, Riopel, & Masson, 2018) and learning processes (Claro, Paunesku, & Dweck, 2016).

However, there is lack of research؛on students' mindset theories, the impact of interventions on their mindset, and the role of teachers in being effective in interventions (Rissanan et al., 2016). In particular, how theories of mindsets affect teachers' thoughts and educational approaches among the studies, has not been investigated by the Iranian scholars of the field. As a result, research on teacher's implicit theories and related semantic systems is necessary. Since implicit theories have shown that they have a significant influence on teacher's ways of giving meaning to themselves, others, and other social activities (Rissanen et al., 2016); considering how theories of teachers' mindset affect their meaning system in the classroom and how these theories affect teachers' thoughts and teaching approaches, is essential. So, the purpose of this study is

to explain the relationship between teachers 'mindset, their perception of students' behavior, learning, achievement, and how they interpret students' performance and their strategies to increase student motivation. The analysis approach is presented in concise form in Table 2.

Method

The qualitative method and a descriptive phenomenological design were used in this study after evaluating the teachers' mindset. Phenomenology is used to describe, in depth, the common characteristics of the phenomena that has occurred. Qualitative data collection tools are semi-structured interviews based on open-ended questions and pre-designed questions, designed by the researcher based on previous theories and research.

Participants

The purposive sampling method was used to select a sample of the teachers who teach in the schools of District 1 of Yazd. To assess the teachers' mindset, Dweck's Mindset Questionnaire (2000) was administered among teachers. Initially, 18 teachers volunteered to participate in the study, according to the call. Then, they completed the questionnaire and after evaluating the answers, and determining teachers' mindset, 5 teachers were purposefully selected for a more profound and more extensive study. They are class teachers at the level of primary education (grade 1 to 6) that the teaching of all subjects is generally given by the single class teacher. Before starting the research, the participants were talked about the objectives, the nature of the study, and the confidentiality of the information.The participants were also ensured that the collected data would be recorded in codes to be kept strictly confidential and used only for research purposes.

The interview designed for the purpose of this study included 24 questions and the interviews of the participants were recorded by audio recording to be transcribed later. The questions were asked one after the other in the interview process by the researcher and the teachers were asked follow-up questions to explain their answers more clearly whenever necessary. Then, the researcher inductively coded and categorized teachers' understandings of the teaching-studying-learning processes by using preliminary interviews as primary data. This was done through a circular process of forming condensed meaning units, grouping these into subcategories and categories, and then revising both the codes and the categories by returning to the condensed meaning units. The interview was timeless. It ranged from 30 to 70 minutes.

Instruments

Carl Dweck's Mindset Inventory (2000) was used to assess teachers' mindsets. The teachers were asked to evaluate their attitudes to eight statements on a six-point Likert scale (1=strongly agree, 6=strongly disagree), of which four statements were related to intelligence and four to giftedness. Mean scores of 1.0-3.0 indicated a fixed mindset; 3.1-3.9 showed a mixed mindset; and 4.0-6.0, a growth mindset. A samp e item is: "your intelligence is something about you that you cannot change ver. much." Dweck, Chiu, and Hong"(1998) showed that this questionnaire has an acceptable internal consistency and Cronbach's alpha coefficients are 0.97. In this study, Cronbach's alpha for the mindset is 0.94.

Procedure

As the first step, Dweck's Mindset Questionnaire (2000) was used for evaluating the teachers' mindset. Teachers completed the questionnaire and after evaluating the answers and determining teachers' mindset, 5 teachers were purposefully selected. Then they were interviewed by semi-structured questionnaire. In this questionnaire, 24 open-ended questions and several demographic questions were designed. The content validity of these questions has been approved by three faculty members of the university. The data include interviews with target teachers in which they were asked questions related to their background, current job, professional aims, and relationships with the students.

Data analysis

The data collected via the interview were analyzed by qualitative content analysis method.

The content of the interview was divided into three parts. First part, teachers were asked about how they support students' individual learning processes. In the second part, teachers were asked about how they promote learning goals in their students and finally, in the third part, they were asked about how they foster students' process-focused thinking. In this method, the text of the interviews is reviewed several times to be broken down into the minor significant constituent units. These words are then reviewed and categorized accordingly in order to find centrality among them. Consecutive reviews between the initial texts and the final categories are repeated several times; finally, an acceptable difference and a shared sense of satisfaction between researchers about what the data say is achieved. A participant evaluation method was used to examine the validity. To this end, the researcher provided key participants with a summary of their findings, such as primary and secondary topics, and asks them if the

findings reflect their experiences accurately or not (Cresswell, 2015).

Findings

Table 1 shows gender, teaching background, degree, teacş ung& base, kand teachers' mindset in the present study.

Table 1.
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Code	Gender	Teaching Background	Degree	Teaching Base	Mindset
1	Female	9 Years	Ph.D. Candidate	Fifth Grade	Growth
2	Female	17 Years	Bachelor of Art	First Grade	Growth
3	Female	9 Years	Bachelor of Art	Sixth Grade	Fixed
4	Female	9 Years	Ph.D.	Third Grade	Fixed
5	Female	10 Years	Master of Art	Second Grade	Growth

As Table 1 shows, the gender of teachers in the present study, due to restrictions on admission to boys' educational centers, is female. The average teaching experience of teachers in the present sample is 11 years and the teaching base of teachers is elementary. The results of the content analysis conducted in this study showed six fundamental factors about teachers 'mindset and its effect on their understanding of students' behavior, learning, and progress in the classroom. Table 2 shows an excerpt from the coding.

Table 2
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Axial Coding	Open Coding Growth Mindset	Fixed Mindset
Performance Interpretation	Interpreting the students' behavior according to the situation Pay attention to the individual differences of students Pay attention to emotional situations and success Pay attention to the needs of students Do not describe students as weak and talented labels	Interpreting the behavior of Students according to fixed characteristics Pay attention to students according to their talents and opportunities Classification of students according to their achievements and talents Little attention to the effort of students
Instruction	Training in general without considering students' ability Pay attention to the mental, psychological, and physical readiness of the students Use several different teaching methods	Attributing students' success and failure to internal characteristics Use a fixed teaching methods Teach according to students' ability Ignoring the readiness of students
Motivation	Encourage and support the efforts of less successful students Pay attention to students' effort Comparing students' performance with themselves Pay attention to the minor progress of students	Encouragement External motivation Label Supporting efforts, especially for successful and intelligent student
Stereotyping	Ignore stereotyping Attention to cultural challenges Boys and girls have the same ability to learn math	Stereotyping others Boys are better at math than girls
Assessment	Lack of attention to the score	Pay attention to the score

Axial Coding	Open Coding Growth Mindset	Fixed Mindset
	Pay attention to learning, learning strategies, and the learning process	Evaluation according to test scores Ignore the learning process
Responsibility	Follow up students' learning process Fair attention to all students Introducing students to the best way of learning Identify the potential of students	Ignoring their role in students' learning process Attention to successful students

Discussion

According to what is mentioned in the above table, six fundamental factors about teachers 'mindset and its effect on their understanding of students' behavior, learning, and achievement in the classroom are presented as follows:

1. Performance Interpretation: Fixed mindset teachers often describe students' behavior according to their fixed traits, often with their talents and achievements. In this regard, one of the teachers said: "Sarah is a student who often gets 20, the student next to her, Zahra is also smart, but does not put too much pressure on herself" (Code 4). These teachers classify students according to their talents, as is one of the fixed mindset theory's qualities. Previous studies have shown that theories of fixed mindsets believe that fixed characteristics of individuals are the cause of individuals' behavior (Chiu, Hong, & Dweck, 1997). Thus, individuals with a fixed mindset who interpret behavior in terms of different personality traits and abilities are trait-focused (Molden, Plaks, & Dweck, 2006). "In math, you can quickly become aware of a student's trait as well as some of her personality after two or three exams," said one teacher (Code 3). These teachers also attribute the failures and successes of students to their stable traits such as intelligence and talent and pay little attention to the students' efforts.

People with a fixed mindset are known to have little attention to effort (Blackwell, Trzesniewski, & Dweck, 2007). Nevertheless, these teachers pay close attention to the hard work of students whom they consider talented and describe the failures of these students according to their emotional and situational processes. Thus, such teachers tend to interpret the behavior of successful students based on the situation. In this regard, a teacher said: "Zahra is a talented and intelligent student, but sometimes she gets a lower grade due to emotional problems " (Code 4); he also stated: "Sarah is a weak student, she tries her best, but her grades are not good, because she does not have mathematical talent" (Code 4).

On the other hand, previous studies have shown that growth mindset theories believe that people's behavior should be predicted according to psychological processes and situations (Chiu, Hong, & Dweck, 1997). Thus, people with growth mindsets, who interpret and predict behavior according to their feelings, desires, and goals, are process-focused. Growth mindset teachers interpret students' behavior, learning, and progress according to emotional states, learning strategies, and situational factors, as is evident in people with incremental theory. Thus, these teachers interact with the students according to themselves without knowing what their social situation and learning styles are. These teachers said they pay attention to the individual differences and needs of each student, interpreting their failures and successes according to the situation and the emotional factors associated with it. Their purpose is to show students how good they are at learning and that there are no limits to learning. They try to confront the emotional barriers such as the fear of failure that the students experience in the process of learning, and guide the students by encouraging them, acquainting them with the appropriate ways to study, and choosing the best way. These teachers also showed in their conversations that they rarely describe their students as weak or talented. In this regard, one of the teachers said: "I pay attention to individual differences between students and interact with all students in the same way" (Code 1). Another teacher commented: "Zahra's low score in this lesson indicates her weakness in learning this part of the lesson and I have to work with her in this field more" (Code 2). Another teacher also said, "When describing students according to their grades, more attention should be paid to their situation and mental state at the time the test was conducted" (Code 5).

2. Stereotyping: Previous studies have shown that people with a fixed mindset are more likely to discuss stereotypes about others and interpret people's beliefs in a way that confirms their stereotyped ideas (Rydell, Hugenburg, Ray, & Mackie, 2007). In this study, teachers made remarks about the gender stereotyping that "male students are better at math than female students." In this regard, one of the teachers said: "My

work experience has shown that boys are better at math than girls" (Code 2). As it can be seen here, the code 2 teacher, who has a growth mindset, follows the stereotype, which here suggests that stereotyping is prevalent among teachers due to our culturally incorrect approaches, but in the interviews, teachers with higher levels of education; Both with a fixed mindset and a growth mindset argued that they were opposed to gender stereotyping, and these stereotypes were formed due to a lack of knowledge and cultural misconceptions in some people and even many studies have violated this type of stereotyping.

In this regard, one teacher said, "Boys 'excellence in mathematics is a stereotype, and students' excellence is related to their abilities, not their gender abilities" (Code 5). Another teacher said, "Boys may be better at technical issues because of their physical strength, but there is a lower proportion of girls in mechanics, math, and technology because of our cultural misconceptions and since a woman is a better manager for internal affairs and child-raising, her role in developing mathematical and technical talents has diminished; otherwise she also has technical and mathematical abilities" (Code 4); Although this teacher speaks of ability and talent in her conversations, which is one of the characteristics of people with a fixed mindset, she does not accept gender stereotyping.

Also, one of the teachers with a growth mindset who is opposed to gender stereotyping, which is one of the characteristics of people with a growth theory (Plaks, Stroessner, Dweck, & Sherman,2007), suggests that sometimes the students themselves believe in gender stereotyping and use these stereotypes to defend themselves in times of failure. In this regard, the teacher said: "when students are asked about their performance, they give up quickly and defend themselves by claiming that I am a girl and cannot understand math well; they should know that girls may do better in math than boys, they just do not believe in their abilities" (. ode 1). In general, gender stereotyping has become common among teachers, and recent research has shown that these prejudices have a positive effect on boys 'mathematical progress and a negative effect on girls' mathematical progress (Lavy & Sand, 2015).

3- Evaluation: Evaluating academic achievement compares the results of measuring learners' performance with educational goals or learning goals and deciding whether teachers' educational activities and students' learning efforts have been successful or no (Seif, 2016). Regarding assessment, fixed mindset teachers said that they pay special attention to students' scores to evaluate their performance, for whom the learning process is not very important, and most of its efficiency leads to their feedback to students. In this regard, one of the teachers said: "Students' score is a criterion for their learning" (Code 3).

In contrast, growth mindset teachers do not look at students' scores as a criterion for assessing their performance, but rather at the amount of learning and how they use learning strategies, and the learning process is more critical for them than students' performance. In this regard, a teacher remarked: "Students' grades are not very critical to me, because I focus on students learning and compare their performance to their own" (Code 5).

4. Instruction: In the interviews, when asked about teaching, teachers with a fixed mindset suggested that they often use a routine method for teaching, and that their teaching is according to the students' abilities. In this regard, a teacher said: "My instruction depends on the ability of my students" (Code 3); In contrast, growth mindset teachers argued that their instruction generally does not take the students' abilities into account, but she helps students who need more effort in particular. Growth mindset teachers pay attention to the joy of the classroom, the mental, psychological, and physical readiness of students and they often use different methods and tools for teaching. In general, these teachers consider themselves responsible for teaching and learning students. In this regard, a teacher said: "When I am teaching, I try to use appropriate tools following the age of the students. Because I often teach the first grade, I sometimes use storytelling, painting, group playing for teaching, and my teaching is always unpredictable for students "(Code 2).

5. Responsibility: Teachers' mindset is related to their views on their responsibility for student performance. Teachers with a fixed mindset (about students' abilities) consider themselves less responsible for student learning practices (Peterson, Kravchenko, Chen-Bouk, & Kelley, 2016). In the present study, these teachers also said that they pay more attention to successful students and ignore weak students because, from their point of view, they do not have enough ability and talent to learn. They ignore their role in students 'learning by saying that students' weakness is due to their lack of talent and not the teacher's instruction and performance. In this regard, one of the teachers said: "If the student is weak and does not have talent in mathematics, I will gradually become disappointed with her" (Code 2).

In contrast, growth mindset teachers have argued that they pay adequate attention to all students, constantly follow the learning process of students, try to acquaint students with the best ways of learning, and talk with students about their potentials. Therefore, according to what has been said, these teachers consider themselves effective and responsible in the students'

learning process. In this regard, a teacher said: "A student who needs effort in my class, I constantly monitor her learning and performance, I plan to correct her weaknesses step by step, and teach her effective learning strategies "(Code 1).

6. Motivation: All teachers in the interview stated the importance of motivation in learning, but they had different explanations about reducing or increasing students' motivation. Fixed mindset teachers stated that students' lack of motivation is due to their low ability; when students have challenging homework, they become unmotivated. In this regard, a teacher suggested: "For students who have little ability, I try to give simpler and easier assignments or questions" (Code 3). These teachers often praise their students by encouraging and motivating them, highlighting most of their talents and achievements, and thus motivating them: "You are talented for this lesson and you will succeed in it. »(Code 4). When teachers use clever labeling here, they shape a fixed mindset in their students, which hurts them (Müller & Dweck, 1998). Therefore, these teachers do not pay attention to the students' effort and their emphasis is more on the fixed traits of the students.

In contrast, growth mindset teachers suggested that to motivate students, they pay little attention to students 'efforts, and compare students' performance with their own, not with others'. They believe that praising students' intelligence harms their motivation and performance. These teachers point out that when students feel, they are failing in their homework, they remind these points to motivate them: "You may have used poor study techniques, you may not have tried hard enough, and they try to convince them about their ability and learning, and to help them cope with their failures through emotional and academic support and encouragement."

Conclusion

Each person has a set of implicit beliefs about their abilities and those of others, which creates a system of meaning for them and this system of meaning affects how an individual achieves academic success, how he or she perceives his or her knowledge and ability in that educational context, and how he or she responds to challenges and failures (Blackwell et al., 2007). Since in educational systems, the teacher is one of the critical components of that system and any shortcomings in other components of the system are affected by this element and also the teacher's mindset is related to his/her behaviors in the classroom, any modification and change must begin from teachers' mindset and behaviors (Shabani, 2013). Therefore, it is imperative to pay attention to the teacher's situation and its role in interpreting students 'actions and increasing students' motivation.

The present study tried to examine the mindset of teachers and its effect on their understanding of students' behavior, learning, and progress in the classroom. For this purpose, the purposive sampling method was used and at first, Dweck's (2000) questionnaire was completed by teachers to identify their mindset and then the teachers were interviewed in person. Using the method of content analysis and interviews, two classes of teachers with a fixed mindset and a growth mindset and six main categories of qualitative units have been extracted. These six crucial and main categories include stereotyping, performance interpretation, evaluation, instruction, motivation, and responsibility.

The results of the interviews with the mentioned categorization showed that the results of this research are in line with aspects of the research of Matthew (2007), Johnson and Beach (2012), Ruttle et al. (2012), Schmidt et al. (2015), Patterson et al. (2016). Rissanen et al. (2019; 2018) and Lisette, Krüger, Zijlstra, and Volman, (2019). In this regard, according to the present findings, it can be said that the meaning system of teachers, which is related to their mindset, shapes their understanding and interpretation of the process of learning, teaching, study, and motivational activities. Teachers with a fixed mindset are trait-focused and pay attention to stereotypes, as is one of the characteristics of people with a fixed mindset (Mulden & Duke, 2006), and teach according to students' abilities and assessment regardless of their situations is one of their main goals. In contrast, teachers with growth mindsets are process-focused, they consider emotional processes and learning strategies as the primary predictors of learning and situation, and emotional support of students and acquaintance with appropriate study methods are their primary goals.

The findings of the present study also suggest that a teacher may have a growth mindset but be involved in a series of cultural hypotheses such as the stable ability for math (Dweck, 2008) or stable competence of successful students (Karkkainen & Raty, 2010). Teachers who are mentally stable but highly educated may also be aware of these cultural challenges and not pay attention to common stereotypes. Therefore, while paying attention to stereotypes is one of the characteristics of people with a fixed mindset, but in this study, it was observed that teachers, this characteristic is not evident in the teachers who are more highly educated. It can indicate the effect of education and study on changing people's mindsets.

The results of the present study also showed that teachers with a fixed mindset use external motivations and labeling without considering students' effort, which instead of increasing students' motivation, causes harm to them. This finding is consistent with research by

Ratan, Good, and Duke (2012), who have shown that a fixed mindset stimulates educational activities that may cause students to make little or no progress in a long time. In contrast, growth mindset teachers appreciate students 'efforts, pay attention to students' most minor progress, and try to convince students that they have sufficient ability to learn. According to what was mentioned, teachers with a growth mindset have a significant role in the process of teaching, learning, and motivation of students, and the results of this study provide good reasons to start, create and explore ways to strengthen the system of incremental meaning among teachers, in such a way that by influencing the semantic system of teachers instead of students through educational interventions, we can see more benefits and effects. Therefore, improving the system of incremental meaning in teachers is one of the research areas that should be considered in the future.

However, this study showed that a growth mindset alone could not lead to positive educational activities because some cultural beliefs may interfere. As a result, in addition to promoting the teachers' incremental semantic system, attention should also be paid to the misconceptions of cultural misunderstanding prevailing in society so these cultural barriers can be removed by increasing the level of teachers' knowledge. In general, it is suggested that it is valuable in teachers' curricula to be familiar with mindsets, the role of mindsets in teachers' behavior and attitudes toward students, and the educational protocol to increase teachers' awareness of the relationship between motivation and growth mindset and its impact on their educational activities.

It is also necessary to keep in mind the limitations of the study. Based on our samples, we are able to present hypotheses for how teachers' mindset might influence their pedagogical thinking, and describe possible mechanisms linking teachers' ways of making sense of the social information in the classroom to their pedagogical practices. However, our data does not enable us to generalize; further studies will be needed to confirm the prominence of these mechanisms.

References

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. *Child Development*, *78*(2), 246-263.

Chiu, C., Hong, Y., & Dweck, C. S. (1997). Lay dispositionism and implicit theories of personality. *Journal of Personality and Social Psychology*, *73*(3), 19-30.

Cresswell, J.W., & Plano Clark,V. (2016). *Combined research methods*. (Translated by Alireza Kiamanesh and Javid Sarai). Tehran, Ayizh Publishing.

Claro,S., Pauneska, D.,& Dweck,C.S. (2016). Growth mindset tempers the effects of poverty on academic achievement, *Proc. Nat.Sci*, *113*(31), 8664-8668.

Dweck, C. S. (1999). *Self-theories: Their role in motivation, personality, and development.* Philadelphia: Psychology Press.

Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry, 6*(4), 267-285.

Dweck, C. S. (2000). *Self-theories: Their role in motivation, personality and development*. New York, NY: Psychology Press.

Dweck, C. S. (2006). *Mindset: The new psychology of success*. New York, NY: Random House Publishing Group.

Dweck, C. S. (2010). Even geniuses work hard. *Educational Leadership*, *68*(2), 16-22.

Dweck, C. S. (2012). Mindsets and human nature: Promoting change in the Middle East, the schoolyard, the racial divide, and willpower. *American Psychologist*, *67*(4), 614-622.

Dweck, C. S., & Leggett, E. L. (1988). A social cognitive approach to motivation and personality. *Psychological Review*, *95*(3), 265-273.

Dweck, C. S. (2008). *Mindsets and math/science achievement*. New York: Carnegie Corporation of New York, Institute for Advanced Study, Commission on Mathematics and Science Education.

Delaware, Ali. (1997). *Theoretical and practical foundations of research in humanities and social sciences*. Tehran, Roshd Publications.

Denzin, N.K., & Lincoln, Y.S. (2005). Introduction: The discipline and practice of qualitative research. In N.K. Denzin & Y.S. Lincoln (Eds.), *The sage handbook of qualitative research* (2nd Ed.). Thousand Oaks, CA:Sage.

Georgiou, S. N., Christou, C., Stavrinides, P., and Panaoura, G. (2002). Teacher attributions of student failure and teacher behavior toward the failing student. *Psychol. Sch.*, *39*(1), 583– 595.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: Aldine De Gruyter.

Johnson, R. B., & Christensen, L. (2017). *Educational research: Quantitative, qualitative and hybrid approaches*. (Translated by Alireza Kiamanesh et al.). Tehran, Publishing Science. (Original language release, 2014).

Jonsson, A.C., & Beach, D. (2012). Predicting the use of praise among pre-service teachers: The influence of implicit theories of intelligence, social comparison and stereotype acceptance. *Education Inquiry*, *3*(1), 259–281.

Johnson,B., & Christensen,L.B. (2014). *Educational research: quantitative. Qualitative, and mixed*. University of south Alabama.

Kärk-käinen, R., and Räty, H. (2010). Parents' and teachers' views of the child's academic potential. *Educ. Stud. 36*(2), 229-232.

Kuusisto, E., Laine, S., & Tirri, K. (2017). How do school children and adolescents perceive the nature of talent development? A case study from Finland. *Education Research International*, *2017*, 1-8.

Lavy, V., & Sand, E. (2015). *On the origins of gender human capital gaps: Short- and long-term Consequences of aadhsss' sooooaad baasss*. NBER Working paper series, working paper 20909. Cambridge, MA: National bureau of economic research.

Manadi, Morteza (1385). Qualitative method in social and behavioral sciences. *Seminary and University Quarterly*, *47* (12), 93-80.

Molden, D. C., Plaks, J. E. & Dweck, C. S. (2006). "Meaningful" social inferences: Effects of implicit theories on inferential processes. *Journal of Experimental Social Psychology*, *42*(3), 738-752.

Molden, D. C., & Dweck, C. S. (2006). Finding "meaning" in psychology: A lay theories approach to self-regulation, social perception, and social development. *American Psychologist*, *61*(3), 192–203.

Mueller, C. M., & Dweck, C. S. (1998). Praise for intelligence can undermine children's motivation and performance. *Journal of Personality and Social Psychology*, *75*(1), 33–52.

Matthews, D. (2007) "Book Review: Mindset: The New Psychology of Success, by Dweck, C. S. (2006)," *Gifted Children*: Vol. 1: Iss. 2, Article 7.

Plaks, J. E., Stroessner, S. J., Dweck, C. S., & Sherman, J. W. (2001). Person theories and attention allocation: Preferences for stereotypic versus counter stereotypic information. *Journal of Personality and Social Psychology*, *80*(6), 876–893.

Paunesku, D. (2013). *Scaled-up social psychology: Intervening wisely and broadly in education.* (Doctoral Dissertation; Stanford University).

Patterson, M., Kravchenko, N., Chen-Bouck, L., & Kelley, J. A. (2016). General and domain specific beliefs about intelligence, ability, and effort among pre-service and practicing teachers. *Teaching and Teacher Education, 59*(2), 180-910.

Rissanen, I., Kuusisto, E., Tuiminen, M., & Tirri, K. (2019). In search of a growth mindset pedagogy: a case study of one teacher's classroom practices in a Finnish elementary school. *Teacher Education*, *77*,204-213.

Rissanen, I., Kuusisto, E., Hanhimaki, E., & Tirri, K. (2018a). Teachers' implicit meaning systems and their implications for pedagogical thinking and practice: A case study from Finland. *Scandinavian Journal of Educational Research*, *62*(4), 487-500.

Rissanen, I., Kuusisto, E., Hanhimaki, E., & Tirri, K. (2018b). The implications of teachers' implicit theories for moral education: A case study from Finland. *Journal of Moral Education*, *47*(1), 63-77.

Ronkainen, R., Kuusisto, E., & Tirri, K. (2018). *Pedagogical leadership in action: A case study of a teacher with growth mindset in learning*. Manuscript in preparation.

Rattan, A., Good, C., & Dweck, C. S. (2012). "Its ok not everyone can be good at math": Instructors with entity theory comfort (and demotivate) students. *Journal of Experimental Psychology*, *48*, 731-737.

Rydell, R. J., Hugenberg, K., Ray, D., & Mackie, D. M. (2007). Implicit theories about groups and stereotyping: The role of group entitativity. *Personality and Social Psychonology Bulletin*, *33*(4), 549–558.

Seif, Ali Akbar. (2016). *Modern Educational Psychology*, Tehran, Doran Publishing.

Schmidt, J. A., Shumow, L., & Kackar-Cam, H. (2015). Exploring teacher effects for mindset intervention outcomes in seventh-grade science classes. *Middle Grades Research Journal*, *10*(2), 17-32.

Sarrasin, J. B., Nenciovici, L., Foicy, L. B., Duquette,G., Riopel,M., & Masson, S. (2018). Effects of teaching the concept of neuroplasticity to induce a growth mindset on motivation, achievement, and brain activity: A meta-analysis. *Trends in Neuroscience and education*, *12*, 22-31.

Swann, W. B., & Snyder, M. (1980). On translating beliefs into action: Theories of ability and their application in an instructional setting. *Journal of Personality and Social Psychology*,*38*(6), 879–888.

Strosher, H. (2003). *Prospective and Practicing aaahhsss' Beliefs: A Study of Implicit Theories of Intelligence and Teacher Efficacy*. Alberta: Unpublished doctoral dissertation, University of Calgary.

Shabani, Hassan (2013). *Educational skills (teaching methods and techniques)*. Tehran, Samat Publications.

Uiterwijk-Luijk, L., Krüger, M., Zijlstra, M., Volman,M. (2019). Teachers' role in stimulating students' inquiry habit of mind in primary schools. *Teaching and Teacher Education*, *86*(3), 102-894.

Yeager, D. S., & Dweck, C. S. (2012). Mindsets that promote resilience: when students believe that personal characteristics can be developed. *Educational Psychologist*, *47*(4), 302–314.

How to Site: Hosseini, N., & Khademi, M. (2021). Teachers 'mindset and its effect on their understanding of students' behavior, learning, and achievement in classroom. *Iranian Journal of Learning & Memory*, *4*(13), 47-55.
dor: 20.1001.1.26455455.2021.4.13.5.5