

Chapter 68: Implementing the Principle of the Growth Mindset in Saudi Education System to Achieve the Goals of 2030 Vision

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1Introduction

Despite the efforts made by the Ministry of Education in Saudi Arabia to develop and apply new educational methods, there are many weaknesses that I have seen in the educational process, in general, and in the performance and behavior of the students. The students' level is not only related to what the ministry of education and schools provide and the common methods that teachers adapt, but the students' intelligence and their ability to understand the curriculum are related to other factors i.e. the most important ones are their mental development and their psychological and emotional balance.

Thus, in this research, it is recommended to try to explain the problems of student cognition and his or her understanding capacity. Also, the focus will be on the impact of emotion on intelligence and persistence on success. By doing extensive reading and research in the subject matter, on the one hand, and through the review of some theories, concepts and practical educational practices in the American education system, on the other hand, the research will try to find effective solutions to the Saudi students' problems and address them in the local context and setting, and of course abiding by the principles and terms of the "2030 Vision." This paper will examine the following problems:

- 1- Losing motivation in learning among some students and surrender to failure, and in some cases giving up school.
- 2- The overwhelming feeling of stress, anxiety and depression which affects many students during the educational and learning process.
- 3- The inability of the students to reach the higher order thinking and learning skills.
- 4- The spread of some bad behaviors among the students such as cheating and bullying.

The ultimate solution for the afore mentioned problems is applying the concept of *Growth Mindset* (Dweck, 2006) and discussing the impact of this growth and development on the individual and the society.

In his book, '21 Lessons for the 21st Century,' Yuval Noah (2018, p.268) stated that there is an argument among scholars that schools should be transformed and, by the fact, teach students critical thinking, communication, cooperation and creativity more than teaching them technical skills or a specific language or a lesson. In this way, we are preparing them for the year 2050 yet we do not know what skills they will need, and we don't know what languages, topics or lessons they might need for that time.

During the placement phase in the American educational system, the researcher observed new and developed teaching methods and strategies which provided opportunities to

develop grit, elasticity, mental and emotional wellness, such as the teacher's focus on the student's reasoning and demonstrating its ability to grow, in addition to praising performance, competence and effort, not praising the person himself. Based on some previous research, one of the factors that helped spread the concept of the Growth Mindset in American education is the presence of an educational Coach, an element that is lacking in the educational system in Saudi Arabia.

From this standpoint, during this research process, there will be a set of theses and ideas for using the concept of Growth Mindset in education to enhance the performance of students, teachers and educators in the educational system in Saudi Arabia. It presents some findings for research that has demonstrated the importance of adopting the idea of Growth Mindset and working to strengthen it among students. This research also highlights the affective strategies in the learning process along with the Growth Mindset.

Key words:

- **Grit:** “In the context of behavior, it is defined as firmness of character; indomitable spirit” (Perlis, 2013).
- **Growth Mindset:** “Individuals who believe their talents can be developed (through hard work, good strategies, and input from others) have a growth mindset” (Dweck, 2016).
- **Fixed Mindset:** “Those who believe their talents are innate gifts” (Dweck, 2016).
- **False Growth Mindset:** “People often confuse a growth mindset with being flexible or open-minded or with having a positive outlook — qualities they believe they've simply always had” (Dweck, 2016).

2 Literature Review

A- Growth Mindset VS. Fixed Mindset:

Dweck (2006) said, “This tradition also shows how changing people beliefs even the simplest beliefs can have profound effects.” When people think that they can become more intelligent they realize that their efforts have an impact on their success, so they put in extra time which leads to a higher achievement (Dweck, 2006). The distinguishing traits of successful individuals are that they love to learn, search for challenges, appreciate the effort and continue to face obstacles.

These traits are also the characteristics of the growth mindset (Dweck, 2006). Dweck notes that people with a fixed mindset are the most wrong people to estimate their mental abilities. They believe that intelligence is innate and immutable while those who have a growth mindset believe that intelligence can grow through practice and effort (Figure1). In her well-known research, Carol Dweck has documented how individuals' attitudes and vision of the limits of intelligence can affect their behavior and achievement (Dweck, 2006).



Fig.1: Difference between Fixed & Growth Mindset.

Based on Dweck (2006), we can conclude the following points about the two mindsets. The growth mindset is the evolving mindset that always tries to discover and gain knowledge in any possible way by making use of mistakes and accepting criticism and feedback. The belief of the mind that it can absorb many ideas and discover new ones is what drives it for achievement and development. People with a developing mindset are not constrained by difficulties, but rather consider them as challenges and experiences, and learning opportunities.

The growth mindset is a key factor in building civilizations and developing societies. A person with a fixed mindset believes that the capabilities of the mind are immutable. Consequently, this belief affects his intellectual achievements and his ambition to be smarter than

before. People with a fixed mindset believe that they were born with limited IQs (Dweck, 2006). While emanating from the belief of people with fixed mindset a set of behaviors that impede man and delay his achievement, the most important of these behaviors:

- **Focus on the end results:** the-end-result means ambition limits and a growth threshold. When humans know the results, they fail to do the tasks and when they are interested in doing the tasks, they will be able to open new horizons for better aspirations and achievements (Dweck, 2006).
- **Blaming external sources for failure:** admitting error and insisting on the principle of trial and error are essential ingredients for the development of the human mindset. So, blaming the others for failure means escaping the attempt (Dweck, 2006).
- **Fear of mistakes:** As a person's belief that he is unable to accomplish something, he is afraid of trying anything to avoid mistakes. But the growth mindset depends on flexibility, trial and experience (Dweck, 2006).

In this respect, Maria Montessori (cited in Eduardo Briceño

, 2015) quotes, "It is well to cultivate a friendly feeling towards error, to treat it as a companion inseparable from our lives, as something having a purpose which it truly has." Also, Briceño (2015) pointed out in his research to the importance of reconciling with mistakes and dealing with them well,

then presented its divisions (The stretch mistakes - The aha-moment mistakes - The sloppy mistakes - The high-stakes mistakes).

In Harvard Business Review, Carroll (add date) published an article that everyone is a mixture of fixed and developing mindsets. There is no fixed mindset only or growth mindset only as the growth mindset controls one area and the fixed mindset controls another area of the mind. This mixture is constantly evolving with experience, meaning that there is no pure growth mindset so I think all of us, young and old, should look for constant mental stimuli when we fall into this mentality. And it corrected some common misconceptions: - Confusion between the developing mindset and the positive personality. Carroll described this as the wrong developing mindset. -The mindset of growth is merely praise and reward for effort and this is not true because praise must be for productive effort only, so what is important is not praise effort only but reward learning and progress, and emphasizing the processes that lead to these things, such as asking for help from others and trying new strategies and taking advantage of setbacks To move forward effectively. It adopts the growth mindset in an unrealistic and tangible way, as some organizations adopt the growth mindset in a false or incorrect manner (Dweck, 2006).

B- Implementing Growth Mindset to develop the learning process:

Dweck (2006) claims, “The hallmark of successful individuals is that they love learning, they seek challenges, they value effort, and they persist in the face of obstacles.” On the other hand, according to Peter Abboud (2017) most of literature about mindset asserted that individuals with a growth mindset were most likely to learn and grow at higher levels (Duckworth, 2016; Dweck, 2006). Additionally, teachers with a growth mindset were more likely to respond to professional development (Gero, 2013), which was critical for its success and the academic success of students (Gulamhussein, 2015).

- Students:

The students, who have a growth mindset, believe that their abilities and intelligence can be developed with effort, learning and perseverance. Their basic capabilities are simply a steppingstone to their potential. They don't think everyone is the same, but they insist that everyone can get smarter if they try.

In the results of Dweck's research studies from 1973 to 2019 (Rubin, L., Dringenberg, E., Lane, J., & Wefald, A. 2019), it is confirmed that students who bear the responsibility of their learning through training in the growth mindset achieve impressive results for their learning (Dweck, 2016).

Dweck (2016) performed brain activity recordings for two groups of adults, the first category with a fixed mindset who showed only interest in positive feedback and not interested in improvement and knowledge or treatment of errors, while the growth mindset category showed brain activity while receiving feedback and constructive criticism and focused on learning rather than being on right.

From another side, Angela Duckworth at a TEDTalk spoke about grit and the role of a growth mindset in promoting grit for a student. By presenting the most important ideas and results mentioned in her book *Grit: The Power of Passion and Perseverance*, one of the most important is that any effort made by the student in the end is counted twice towards the goal and he can learn

Grit regardless of IQ or any other circumstances (Duckworth, 2017).

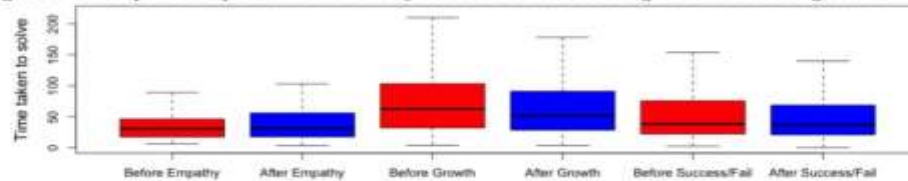
In a research called *Achieving Grit through the Growth Mindset*, the researcher pointed out the importance of grit and said that the link between perseverance and passion may be more important than anything else in learning to make a long-term learner (Pueschel., & Tucker., 2018). Belief and action in a growth mindset win the student or teacher grit until each of them becomes a longterm learner.

In a research entitled ‘Addressing Student Behavior and Affect with Empathy and Growth Mindset,’ through the link between perseverance and emotion, the results showed that emotional messages and showing affection for the learner significantly affect the results of education and the student's ability to learn and reduce nervousness, monotony and tediousness (Table 2). The idea of interest in success and failure may be harmful and limit the direction of learning. It increases confusion and makes students more careless (Figure2). The results of linking emotion with grit may be weak results of the concept of growth mindset (Karumbaiah, 2017).

Table 2: Examples of messages spoken by characters.

Condition	Message
Empathy	“Don't you sometimes get frustrated trying to solve math problems? I do. But guess what. Keep in mind that when you are struggling with are new idea or skill you are learning something and becoming smarter.”
Growth Mindset	“Hey, congratulations! Your effort paid off, you got it right!” “Did you know that when we practice to learn new math skills our brain grows and gets stronger?” “Let's click on help, and I am sure we will learn something.”
Success/ Failure	“Very good, we got another one right!” “Hmm. Wrong. Shall we work it out on paper?”

Figure 2: Time spent on a problem immediately before and after receiving the different categories of messages.



A behavioral aspect study has shown that adolescent students who could change themselves can go beyond the physical and psychological abuse that a teenager faces and could lead to revenge and aggressiveness, yet an adolescent student with a developed mindset can just adapt a more positive attitude towards any kind of abuse or difficulty (Yeager, Trzesniewski., &

Dweck., 2013). A 2019 study on educational and social psychology entitled ‘The fixed mindset of anxiety predicts future distress’ reinforced that people with a fixed mindset do not foresee future psychological and social problems such as anxiety, depression, and distress (Schroder., Callahan., Gornik, ., & Moser, , 2019).

There is a study that demonstrated the importance of realizing the student's growth mindset as it fills a gap between the foreign language anxiety (FLA) and contributes to the student's acceptance of the feedback (Altunel, 2019). Another study demonstrated that enhancing persistence through a growth mindset helps a person to continue to face adversity (Hochanadel & Finamore, 2015). During my research, curiosity and excitement aroused me from the idea of linking a fixed mindset to an implicit bias that might adversely affect the effectiveness of teamwork and student relationships. And how the brain creates an imperfect environment for us (Carr, Rattan, & Dweck, 2001).

Dweck indicated that individuals who believe that they can develop their talents have a developed growth mindset, through hard work, good strategies and inputs from others, and students with this

belief tend to achieve more scientific achievements than students who have a fixed mindset and to students who want to work growth mindset in their practices not to focus on the immediate and immediate result, as this may affect students and make them with a steady mindset in the event of failure and failure (Dweck 2016).

Mary Cay Ricci, in her book 'Ready-To-Use Resources for Mindsets in the Classroom', talks about the practical steps of applying a growth mindset and how understanding the workings of the brain and neural networks can increase the catalyst for nerve connections in students (Ricci, 2015,

p.4). In addition, Rishi Sriram says, "Challenging tasks spur the production of myelin, a substance that increases the strength of brain signals."

The challenges and difficult tasks in the classroom and at home help to produce myelin. It contributes to deep learning and long-term education.

In a video entitled Help, students develop growth mindset by providing challenging work, there is a wonderful citation and strong evidence that students who are trained in the concept of growth mindset have the advantage of accepting difficult challenges and not giving up. Also, students who seek help from other peers without embarrassment and their ability to explain their thoughts and express their feelings.

We conclude from the above indications: One cannot overlook the position of education in developing human societies. Therefore, developing the mind and striving for its growth is better to apply in the educational process, affecting and being affected by it, so educational institutions and those responsible for them must strive to provide the factors that It helps the student to shift from persistence and rigidity in thought to exploration, research, and the love of discovery, by applying new strategies that keep pace with the conditions of society and the developments of the times.

The literature indicated a set of factors and proposals that can be applied in the method of teaching students to contribute to the development of fixed mentalities and open horizons for students who believe that they are limited in thought and intelligence, and mentioned pictures and examples of the application of these strategies and their effectiveness in developing the mindset of students, indicating their positive effects on the individual and society as follows:

Students who have a growth mindset are always ready to learn and discover, always preparing themselves for development and addition by focusing on a specific skill and intensifying the effort for

excellence in its skill. And reconciling with mistakes by encouraging teachers to them, as students may not make the required effort for fear of mistakes and failures. This means that the student's mental development is enhanced through continuous learning without looking at criticism and without caring for feedback. The impulse to the power of effort and the large number of achievements comes through some positive emotional motives that encourage perseverance and resilience and make the student a long-term learner. As the strong motivation for success is not "genius" but a unique mixture of passion and perseverance, the student may possess all the resources and mental capabilities necessary to achieve their goals. But, if they are unable to survive and persevere along the path and the challenge, they cannot achieve success. If the student must exhibit a set of features that contribute to enhancing his growth mindset, then the rest of the elements involved in the student's education and upbringing. It has a role in promoting student mental development.

- **The teacher: The role of the teacher in supporting the Growth Mindset**

In an interview by James Morehead which is published in OneDublin.Org, Dweck (2010) was asked the following question: OneDublin.org: Have you done any studies on the proclivity to cheat as it related to the mindsets? and she replied as follows: “Yes, we have. We’ve shown with a large sample of middle school students that after a poor score on a test the students with a fixed mindset say yes, they would seriously consider cheating. A TV show in Korea recreated our praise studies and they showed that children and adults who were told they were brilliant for a task cheated substantially more than those praised for their process, for their effort.”

Dweck (2010), in her article “Even Eveniusius Work Hard,” discusses how teachers can design and deliver learning tasks in ways that enhance the growth mindset. By praising the learning process rather than praising the students’ ability. Celebrating the students’ passing of challenging tasks. The teacher can search for appropriate strategies that enhance this role, such as investigating issues, solving puzzles, investigation and analysis, and the teacher must portray the challenges as fun and exciting, while depicting easy tasks as boring and less useful to the brain as students love this type of learning that enhances perseverance within them. It reflects on their life skills when students initially struggle or make mistakes, the teacher should view these as an opportunity to teach students how to try different strategies if the first strategies don’t work out how to step back and think about what to try next, such as solve difficult and mysterious problems (Dweck, 2010).

In another research, it has been proven that a teacher who has a developed mindset is the one who improves and develops his performance through training, benefits from setbacks and failures, receives feedback and works with it. A teacher with a fixed mindset sees training as an additional process during teacher training. The focus must be on the points that the teacher applies and can transform students’ levels from good to wonderful (Quigley, 2013). “Every teacher needs to improve, not because they are not good enough, but because they can be even better” by Dylan Wiliam (as cited in Quigley, 2013).

Dweck mentioned in her book that the French scientist Alfred Binet invented the intelligence test in order to reinforce some students who suffer from some difficulties and was not to classify intelligence or stupidity, but this mistake has become chasing us to this day (Dweck, 2006). An experimental neuropsychological study conducted on primary school students demonstrated the

benefit of an online educational game (BrainPOP) through in-game rewards that the growth mindset can be strengthened by directly stimulating effort and encouraging persistence in students with poor performance. She revealed that the growth mindset has positive effects on student motivation and academic performance and has been linked to results and behaviors

including academic achievement, participation, willingness to try and accept new challenges. (Ng B, 2018).

A number of researchers in America conducted a study titled “Faculty Beliefs about the Nature of Intelligence” on the implementation of the growth mindset in academic education, in which he measured the beliefs of faculty members about their intelligence, student intelligence, and a mental survey consisting of eight elements based on the Dweck concept (2000 & 2006). The striking statistical statistic was the consistency of the belief outcome between the teaching process, faculty, and students. Its results indicated that colleges should discuss the growth mindset. And creating an educational

environment that suits it. If the educational institution has a fixed mindset, it is likely that students have the same view of their mentality and the need for the role of the school in learning seems to enhance the growth mindset, as the school's role is not limited to presentation and performance only, but the exchange of ideas with students, discovery, experience and learning. The question contributes to success (Briceño, 2017).

In a study conducted by Peter Abboud in his research *Supporting a Growth Mindset in High School Classroom Teachers*, I drew my attention to the recommendations that were proposed that recommend continuous training for school principals so that they can better guide teachers in thinking and learning, in order to implement the growth mindset (Abboud, 2017). The ability of the educational and school staff to open up and embrace change has a major role in promoting the growth mindset, and faculty members' awareness of the principal's behavior in opening up to change can be a step in developing new learning. The changes in the school occur through encouragement and support, and open opportunities for faculty participation in decision-making and development in the educational process.

The underlying theory of growth mindset is determined according to the school's culture on

What's My School Mindset. This exploratory study was a preliminary effort to examine the validity of content for building a school growth mindset using SPSS to perform correlation analysis with organizational learning variables relevant to multiple cultures (Dweck, 2012; Kearney, 2007,

p. 102). We conclude from the previous references:

The teacher should pay attention to focusing on the student's effort and performance. And that it diversifies in the methods and means used in education, and it must be characterized by flexibility, an effect of focusing on implementing the curriculum as stated in a text or following instructions only without interfering with development and development, and this is effective through integrating it with passion. And give management confidence to the teacher. In addition to the teacher accepting the

feedback, the student's academic achievement is highly dependent on the teacher's effectiveness in terms of training, feedback, and the advanced educational practice process. Accordingly, I need to research more about the subject of gifted classes and intelligence tests which occur at the beginning of the year in some schools in Saudi Arabia and examine the impact of that on students. Through this set of studies, a great deal of evidence defines Dweck's theory of growth mindset as a critical framework for motivation and learning.

Education Reform Plan

Applying the concept of growth mindset to address mental development among the elements of the educational process in the Kingdom of Saudi Arabia.

Through my journey in this research and analysis of most of the ideas contained in some of the literature on the concept of growth mindset, I found that I can implement a treatment plan that enhances the concept of a growth mindset in the educational process in the Kingdom of Saudi Arabia. I can do that by implementing a project that derived its ideas from my observation and work as an assistant teacher for the host teacher in an American school in Massachusetts. In that school, I noticed that middle school students are known by their strong personalities and by their ability to express their feelings, independence in decision-makings, and learning from peers. There was cultural and ethnic diversity in the school, and I did not feel any bias,

fanaticism, or racism. All of the students were taught how to develop their ability to learn new skills, their ability to read and write scientifically and systematically.

Accordingly, I envision the implementation of the project will be as follows:

The application of the concept of growth mindset will start at the school where I work, first, by convincing school officials of the importance of applying a growth mindset approach to teaching; I will present research findings on the concept. The work I will share in my presentation shows the positive results of applying the growth mindset to the educational process. I will also present psychological factors that enhance the educational attainment of students, such as international tests. I will demonstrate that applying the principles of a growth mindset is low-cost and easy to generalize to all regions and environments in the Kingdom. A review of some of the results of implementing the concept in many educational institutions and commercial companies in the world will follow; explaining the relevance of the concept to contemporary culture and the nature of Saudi society will also be discussed.

It is possible to apply the growth mindset in my school by using strategies that reinforce this concept and are suitable for the 21st century skills, the most important of strategies are as follows:

First, instruct students to learn about the mechanism of the mind. Teacher can do that by watching videos and reading scientific articles related to neuroscience and brain science, to explain the mechanism of the brain and the mind's belief that it can develop, change and find positive results to implement the growth mindset in learning.

Second, apply skills and exercises that enhance challenges and encourage students to overcome difficulties and complete tasks, for example, by examining the results of a practical application in biology such as germination of seeds and plants in different conditions.

Third, create a flexible environment for students that supports improvement strategies, by providing learning tools, supporting them, providing feedback, emphasizing the purpose of the tasks and studying and giving the opportunity to think.

Fourth, view and read some stories that encourage hard work and perseverance. Positive models are provided for the results of a growth mindset. This enhances the concept of perseverance, learning and a desire to discover among students.

I will also implement some of the following recommendations:

- Teacher training and raising the family's awareness of the concept of a growth mindset, which contributes to achieving the Kingdom's vision (a vibrant society - a prosperous economy - an ambitious homeland) and the family's involvement in the student's educational mission.
- I propose to develop a professional plan to train teachers on activities that enhance the concept of the growth mindset among students, by organizing a training course that examines the content and capabilities, through which it presents the effect of applying the growth mindset in some schools in the world, and the role of the teacher in bringing the student closer to the methods that reinforce the concept, then present some of the recommendations that the teacher must bear to implement the concept, until the teacher is able to face the problems of fixed mentalities and learn about false mentalities among students.
- My plan will not be limited to teachers and students only regarding the promotion of the concept of growth mindset, but I will also include school principals and administrative officials in the

educational process in Saudi Arabia. They must keep pace with the application of this concept and its strategies through training programs on these strategies to develop perceptions that help teachers and students to apply the concept of growth mindset.

Conclusions

This brief research project on the Growth Mindset has influenced me to generate this idea and present its key literature, quotations and results which revolve around it. My observations of the positive results of applying this concept in education, during my practice of immersion in schools in the United States of America are a strong motivation to study this fruitful concept in education in particular and in social life in general, hoping that I will apply this project data in my school in which I work in the Kingdom of Saudi Arabia.

For that reason, I intensified my efforts and arranged my ideas and put my research plan after I got acquainted with many of the research studies, books and articles that present theories, results and conclusions revolve in its essence on (the importance of how to implement the growth mindset) whether in education or in companies or even in human society in general. The first and main source from which most of the theoretical ideas and conceptions were conceived are concepts and perceptions from the research that Carole Dweck (2006) conducted on the concept of the growth mindset, as the most knowledgeable of her theories and faith in her applied results, and was my choice to rely on Dweck's (2006) perceptions and concepts. This is an enhanced choice for my idea and conceptualization of the concept, since throughout my journey as a teacher in the schools of the Kingdom of Saudi Arabia.

I am always looking for modern concepts and theories that contribute to the development of the educational process in the Kingdom, to address many errors and methodological, behavioral and educational problems for students that negatively affect the student's educational journey and may contribute to poor reception and low level of thought, all these problems that I found in my school and in

many from the Kingdom's schools, the growth mindset can provide it with many effective positive solutions and effects.

Therefore, my theoretical experience while reading Dweck's concept (2006) of the growth mindset besides noting many educational practices applied in American education, I had the idea of this project and strengthened her idea that I really believe is a fast, effective and inexpensive solution to the problems of the educational process in many regions of the world. The concept of the growth mindset and the strategies for its application and promotion that Dweck (2006) presented and followed by many researchers was not for me a mere theoretical project that envisioned its essence and looked at his literature.

My journey in this research project has enriched my idea and strengthened in me a set of educational methods that I aspire to apply in education Saudi Arabia in order to reap its positive fruit to see the Kingdom of Saudi Arabia 2030, and the results of this project were as follows:

- 1- The concepts of growth mindset presented by Dweck (2006) and researchers around it surrounded many important and fruitful ideas in educational thought and human thought in general, as these concepts pointed to the mental ability each person possesses for development, improvement and progress.

- 2- Perseverance and determination are among the most important things that the researchers' concepts about (the growth mindset) called for, because they are indeed the primary drivers for implementing this mentality in human activities.
- 3- Education is influenced by the variables and data of the ages and passes through many and different stages affected by society and affects it. Therefore, education needs be available to suit these variables, and in these days of the **Covid-19** spread, the need to support our students with the appropriate tools and skills, which help them to practice learning without the need to go to school. Professor Steve mentioned in one of his lectures at Wheelock College of Education and Human Development at Boston University, good education is expensive but bad education is more expensive.
- 4- Education is not only a book and curriculum, but rather a set of related elements of mutual impact, as it needs alongside the curriculum of emotion, psychological impact, and behavioral interaction through the interaction between the student, teacher and school administration. Also, it is necessary to consider the psychological, social and cultural aspects of education.
- 5- Classes should be transformed into a embraced, accepting, error-friendly, and learning-friendly environment, with the aim of supporting students in their real life and future.
- 6- My research on the growth mindset and its importance in education and society will not be confined to these brief papers, but this step is the preliminary step for completing an enlarged research project that opens the door for me to work on developing education in the Kingdom of Saudi Arabia.

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Appendices

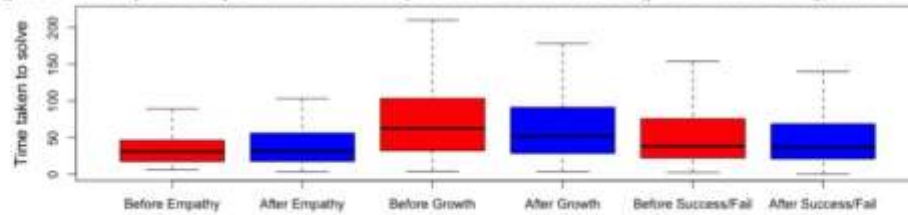


Fig.1: Difference between Fixed & Growth Mindset.

Table 2: Examples of messages spoken by characters.

Condition	Message
Empathy	"Don't you sometimes get frustrated trying to solve math problems? I do. But guess what. Keep in mind that when you are struggling with are new idea or skill you are learning something and becoming smarter."
Growth Mindset	"Hey, congratulations! Your effort paid off, you got it right!" "Did you know that when we practice to learn new math skills our brain grows and gets stronger?" "Let's click on help, and I am sure we will learn something."
Success/Failure	"Very good, we got another one right!" "Hmm. Wrong. Shall we work it out on paper?"

Figure 2: Time spent on a problem immediately before and after receiving the different categories of messages.



Figure(not) A student commented when I asked him why he kept trying to accomplish a task that he had difficulty in class

4 مارس، 2020، 1:42 م

My note (GM):-

what makes me not stop on a challenge is my will to better expand my knowledge.
 by this if I'm stuck on something I should ask for help or find things I need to better clear my mind
 What I use to inspire me to keep learning is me seeing others waste greatness with their minds and
 it helps further my progress into being a better person. (Eden)

ملاحظة الطالب ايدن في كلاس العلوم مع المعلم فيقودر (الرابع من مارس ٢٠٢٠)

