

A Systematic Literature Review of the Growth Mindset and Its Impact on Students: A Case Study of Chinese Students

Yifa Wang^{1,a,*}

¹*University College London, London, WC1E 6BT, England*

a. wangyifa2022@163.com

**corresponding author*

Abstract: This paper is focused on the research of the growth mindset and its impact on Chinese students. Through literature review, this research will investigate how a growth mindset can benefit Chinese students in terms of academic performance, creativity, and resilience to adversity, as well as the challenges and difficulties posed by teaching a growth mindset in China. The study will also outline solutions to support learning growth mindset in Chinese contexts. Through this research, the implications for this research question and further recommendations will be explored. Overall, this research aims to promote understanding of the growth mindset among Chinese students and provide potential solutions to ensure adequate growth mindset teaching in China.

Keywords: Growth Mindset, Chinese learning perspective, Constructivism Theory

1. Introduction

A growth mindset is a psychological concept introduced by Professor Dweck in 2009, which states that intelligence can be developed through hard work and character traits can be improved instead of being fixed at birth. People adopting a fixed mindset are more likely to shy away from challenges, not pursue further growth, and believe their low achievements are beyond their control. On the contrary, people adopting a growth mindset strive to learn and improve their abilities and, consequently, realize success and have fuller lives. The concept was popularized in the book 'Mindset: the New Psychology of Success', written by Dweck. When I first came across the idea of growth mindset and a fixed mindset, it filled me with a strong sense of loss and anxiety. It is hard to change one's mindset when one comes of age, as an adult's mindset is usually set in stone [1]. This can be true in China, specifically, due to their emphasis on traditional education, where students' grades are the only focus of teachers [2]. Moreover, their parents emphasize good grades rather than holistic learning, reinforcing a mindset of fixed abilities and creating fear of failure if that is not achieved.

A growth mindset can be linked to constructivism theory. Constructivism is a learning theory that is based on the idea that learning requires active participation from the learner [3]. Constructivism suggests that all students have different objectives and interests when approaching a new topic, and as such, the teacher should allow them to serve as a facilitator so that students become active participants in their learning. It also proposes that each student has a separate set of prior knowledge and perspectives [4]. Consequently, it is by exploring these knowledge bases and sharing their ideas and understandings with each other that the construction of knowledge and meaning can be achieved. According to Dweck's growth mindset, it would be beneficial for teachers to cultivate a classroom

climate of safe inquiry and collaboration and provide continuous support and feedback for their students to enhance learning [5]. This fits in perfectly with constructivism, as it allows students to become active learners and develop a growth mindset, enabling them to become independent and take initiative in their learning.

Having a growth mindset has immense benefits for students, especially in their development through education. Across all levels of learning, from primary school to higher education, it can help to cultivate self-regulated learning abilities and highly competent skills. This is done by allowing progress to be made from effort rather than the methods of inheriting or acquiring them. In primary school, adopting a growth mindset can create more realistic goals and expectations and boost the student's confidence. Furthermore, Buchanan and Kern say it can lead to motivated work habits, active class participation, and higher engagement in activities, resulting in better academic outcomes, self-satisfaction, and future career advancement [6]. Through approaching each task with a growth mindset, students can learn to appreciate and celebrate knowledge in its various forms, be it participation in discussions, collaboration, research, experimentation, or practice. In college, having a growth mindset allows students to thrive and participate in their learning process. This is due to them realizing that potential does not come from only inherited and acquired traits but rather effort and perseverance to reach success. Unlike high school, where students are told what is right and wrong, college can be quite daunting for some due to its lack of instructions and guidelines. Through interacting with their peers and tutors in search of answers, students can start to craft their understanding of knowledge and take responsibility for their learning process. It is also important to note that a growth mindset is not just beneficial for students but for teachers and parents as well. This is due to how their behaviors and perspectives play an important role in students' learning. By creating a classroom climate of safe inquiry and collaboration, providing continuous support and feedback, allowing students to take initiative in their learning, and encouraging self-motivation, risk-taking, and resilience, teachers can create an environment where a growth mindset is fostered.

The research method of this research report is mainly through online library search, using two databases, Google Literature and UCL Library. The search keywords are growth mindset, education, fixed mindset, constructivism, family, college students, and China. Certainly, there will be a large amount of literature. Therefore, there will be some requirements for this research. The requirements are as follow:

- the literature should be between 2009-2022
- it should be relevant to Chinese education
- it should focus on students

Moreover, the research is reliable because the research is from journal articles and reports.

2. Benefits of Teaching Growth Mindset in China

The concept of the growth mindset has risen rapidly to the forefront of popular discourse in education, psychology, and business. The idea that one may improve one's abilities and skills by putting in effort and learning from mistakes is known as a growth mindset. This concept has been widely studied and applied to different contexts, such as learning in educational settings, workplace performance, resilience to stress, and more. Dweck outlined several advantages of having and cultivating a growth mindset, including increased potential for improvement, improved performance due to continual practice, and increased resilience to adversity [7]. Chinese students have typically been found to have a fixed mindset mentality and, as a result, are prone to give up easily and avoid challenges due to low self-esteem. However, teaching and cultivating growth mindset beliefs has been found to improve their self-efficacy regarding learning and their overall academic performance. Studies have also shown how a growth mindset affects educational performance, with Yeager and Dweck finding a substantial correlation between students with a growth mindset and greater levels of academic

achievement [8]. This is because a growth mindset promotes creativity. Creative thinking requires thinking outside the box, which is only possible to do with a growth mindset. This is because a person with a growth mindset views challenges not as hurdles but as ways to cultivate new ideas and approaches.

It has been discovered that mindset growth is positively correlated to academic success among Chinese adolescent students. According to a study by Wang et al., the influence of mindset growth on the achievement of academics in Chinese adolescents was mediated by reasoning prowess and self-assertion [9]. The study also discovered that self-esteem reduced the effect of mindset growth on academic success. This suggests that self-esteem plays a significant role in developing a growth mindset in Chinese adolescents.

The growth mindset increases the effectiveness of students scores. Huang and colleagues conducted a field experiment to determine the significance of growth mindset teaching to junior high school students in China [10]. The results showed that the students who received the intervention had higher scores on performance than the control group. Furthermore, the intervention positively impacted the students' attitudes toward learning, including intrinsic motivation, task persistence, curiosity, and attitudes toward failure. Thus, the study provides evidence that a growth mindset intervention can be effective in improving academic outcomes in a non-western context.

The growth mindset approach significantly impacts medical education among Chinese students. Richardson and colleagues study identified the effects of a ramified growth mindset curriculum on medical students in Shanghai, China [11]. The results indicated that the mindset growth curriculum was effective in increasing the students' capacity for independent and collaborative learning. Furthermore, the students reported an increased belief that they could succeed in the challenging medical study environment, which suggests that a growth mindset approach can help Chinese medical students develop the skills necessary to succeed in their studies.

3. Challenges and Difficulties

While there are many potential benefits associated with teaching a growth mindset to Chinese students, there are also a number of challenges and difficulties associated with this approach. Firstly, the idea of a "growth mindset" is not always one that Chinese pupils can readily grasp. In order to comprehend better the distinctions between grit and growth mentality in Chinese schools, Zhao et al. conducted a study [12]. The study's findings revealed that most students needed to comprehend the idea of a development mindset and that there needed to be more knowledge regarding the distinctions between grit and growth mindset. Additionally, many Chinese students needed to gain the appropriate language skills to express their knowledge of the growth mindset.

Another challenge associated with teaching a growth mindset in the Chinese context is the prevalence of traditional educational beliefs. Sun and colleagues study compared the outcomes of a growth mindset approach on U.S. and Chinese students [13]. The results showed that Chinese students had lower scores on measures of persistence than their U.S. counterparts, which suggests that there is a preference among Chinese students for traditional educational beliefs, such as the primacy of ability, as opposed to the idea of mindset growth.

The cultural context of teaching a growth mindset is another challenge. Chinese culture is traditionally more communal and collectivist than most Western countries, leading to a preference among Chinese students towards conformity and group-based thinking. Therefore, teaching a growth mindset in a Chinese context requires considerable adjustments to be effective. For example, educators must consider the importance of group learning and collaboration in Chinese culture and focus on bringing out each student's unique strengths rather than pushing students to achieve a particular ideal.

4. Proposed Solutions

There are a number of ways in which the challenges and difficulties associated with teaching a growth mindset to Chinese students can be addressed. Firstly, more investigation is required to comprehend the relationship between academic achievement in China and a growth mindset. Robinson argues that extensive research on subjects enhances greater understandability [14]. Studies examining the impacts of growth mindset on various age groups or the outcomes of growth mindset instruction on various educational outcomes in China could fall under this category. Furthermore, research into how to make the concept of a growth mindset more accessible and understandable to Chinese students is also needed.

Secondly, educators in China should strive to create a culturally sensitive growth mindset approach. Wang et al. suggest that this may involve emphasizing the role of self-esteem in growth mindset development, as this has been found to be an important factor in Chinese contexts [15]. Additionally, more research should be conducted into how traditional educational beliefs and attitudes can be incorporated into an effective growth mindset approach.

Lastly, there is a need to develop further the resources available to support growth mindset teaching in Chinese contexts. Zhao et al. suggest that this may involve providing students with more personalized and collaborative learning opportunities. This could be done by providing more multicultural learning opportunities or creating online platforms where students can share resources and ideas [16]. Additionally, further research into the use of gamification and tools such as virtual reality in growth mindset teaching is needed to ensure that Chinese students can engage with the concept effectively.

5. Discussion

The concept of teaching a growth mindset to Chinese students has come to the forefront of popular discourse in education, psychology, and business due to the potential benefits it can bring. Results from a range of studies have demonstrated that teaching a growth mindset to Chinese students can positively affect academic performance. One of the primary benefits of teaching a growth mindset to Chinese students is the potential for improved academic performance and self-efficacy. Chinese students have often been found to possess a fixed mindset, leading to a tendency to give up easily and avoid challenges due to low self-esteem. However, cultivating growth mindset beliefs has been shown to enhance their self-efficacy in learning and overall academic performance [17]. For instance, a study by Zhao et al. shows a strong link between students' academic achievement and their development mentality [18]. This association is explained by the development mindset's fostering of creativity. Creative thinking requires thinking outside the box, a skill that is challenging to develop without a growth mindset. Such students view challenges not as obstacles but as opportunities to cultivate new ideas and approaches.

Additionally, Wang et al. found that a growth mindset positively correlated with academic success among Chinese adolescent students [19]. The study also highlighted that reasoning prowess and self-assertion mediated the influence of a growth mindset on academic achievement. However, it is essential to note that self-esteem could reduce the impact of a growth mindset on academic success, suggesting a complex interplay between these factors in developing a growth mindset among Chinese adolescents.

Teaching a growth mindset has been shown to increase students' effectiveness in learning, as demonstrated by a study conducted by Huang and colleagues [20]. Their field experiment with junior high school students in China revealed that those who received a growth mindset intervention achieved higher scores in performance compared to the control group. Furthermore, the intervention positively impacted students' attitudes towards learning, fostering intrinsic motivation, task

persistence, curiosity, and a more positive outlook on failure. These findings suggest that a growth mindset intervention can effectively enhance academic outcomes in a non-western context like China.

The benefits of a growth mindset extend beyond traditional academic settings. In the field of medical education, a study by Richardson and colleagues in Shanghai, China, investigated the effects of a growth mindset curriculum on medical students [21]. The results indicated that the curriculum was effective in increasing students' capacity for independent and collaborative learning. Moreover, the students reported an increased belief in their ability to succeed in the challenging environment of medical studies. This suggests that a growth mindset approach can help Chinese medical students develop the skills necessary for success in their studies.

While the potential benefits of teaching a growth mindset in China are evident, several challenges and difficulties must be addressed to ensure its effective implementation. Firstly, many Chinese students struggle to grasp the concept of a growth mindset. A study by Zhao et al. revealed that most students did not comprehend the idea of a growth mindset, and there was a lack of knowledge regarding the distinctions between grit and a growth mindset. Additionally, language barriers hindered their ability to express their understanding of the growth mindset [22]. This points to the need for better communication and education on the subject.

Traditional educational beliefs still hold considerable sway in China, leading to a preference amongst Chinese students for conventional educational approaches over a growth mindset. Sun and colleagues found that Chinese students scored lower on measures of persistence compared to their U.S. [23]. Counterparts indicate a preference for traditional educational beliefs that prioritize inherent ability over the concept of a growth mindset. Overcoming these deeply rooted beliefs poses a significant hurdle in promoting a growth mindset in Chinese education. To address this, more research needs to be conducted into how traditional educational beliefs and attitudes can be incorporated into a successful growth mindset approach. Additionally, greater emphasis must be placed on bringing out each student's unique strengths in the growth mindset approach instead of encouraging students to focus on merely achieving a certain ideal or 'perfect performance.'

Chinese culture's communal and collectivist nature presents another challenge in teaching a growth mindset. Chinese students often favor conformity and group-based thinking, which can be at odds with the individualistic nature of the growth mindset. Developing resources to support growth mindset teaching in Chinese contexts is crucial for the success of the approach. This can include providing students more opportunities for personalized and collaborative learning and using gamification and tools such as virtual reality for growth mindset teaching. Zhao et al. propose providing students with more opportunities for personalized and collaborative learning [24]. This could involve creating online platforms where students can share resources and ideas, fostering a sense of community and collaboration. Exploring innovative tools like gamification and virtual reality for growth mindset teaching could also enhance engagement among Chinese students. Instead of enforcing a one-size-fits-all philosophy, educators must modify their methods to take into account the value of group learning and highlight each student's individual talents. By doing so, Chinese students can be encouraged to engage more effectively with the idea of a growth mindset.

6. Conclusion

In conclusion, teaching a growth mindset to Chinese students offers numerous benefits, including improved academic performance, increased effectiveness in learning, and enhanced self-efficacy. However, there are notable challenges stemming from limited understanding, traditional educational beliefs, and cultural context. Addressing these challenges requires further research, culturally sensitive approaches, and the development of tailored resources. By adapting and refining the implementation of growth mindset education in China, educators can empower students with the mindset and skills necessary for success in an ever-evolving world.

References

- [1] Candy, M. (2019). *Growth mindset vs. fixed mindset in correctional adult education setting*. *Journal of Research & Practice for Adult Literacy, Secondary & Basic Education*, 112-114.
- [2] Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). *From growth mindset to grit in Chinese schools: The mediating roles of learning motivations*. *Frontiers in Psychology*, 9, 2007.
- [3] Chuang, S. (2021). *The applications of constructivist learning theory and social learning theory on adult continuous development*. *Performance Improvement*, 60(3), 6-14.
- [4] Bada, S. O., & Olusegun, S. (2015). *Constructivism learning theory: A paradigm for teaching and learning*. *Journal of Research & Method in Education*, 5(6), 66-70.
- [5] Dweck, C. (2015). *Carol Dweck revisits the growth mindset*. *Education week*, 35(5), 20-24.
- [6] Buchanan, A., & Kern, M. L. (2017). *The benefit mindset: The psychology of contribution and everyday leadership*. *International Journal of Wellbeing*, 7(1).
- [7] Dweck, C. S. (2009). *Mindsets: Developing talent through a growth mindset*. *Olympic Coach*, 21(1), 4-7.
- [8] Yeager, D. S., & Dweck, C. S. (2020). *What can be learned from growth mindset controversies?* *American Psychologist*, 75(9), 1269-1284.
- [9] Wang, D., Yuan, F. & Wang, Y. (2022). *Growth mindset and academic achievement in Chinese adolescents: A moderated mediation model of reasoning ability and self-affirmation*. *Curr Psychol* 41, 783-792.
- [10] Huang, Z., Wei, X., Lu, R., & Shi, J. (2022). *Whether and how can a growth mindset intervention help students in a non-western culture? Evidence from a field experiment in China*. *Educational Psychology*, 42(7), 913-929.
- [11] Richardson, D., Kinnear, B., Hauer, K. E., Turner, T. L., Warm, E. J., Hall, A. K., ... & ICBME Collaborators. (2021). *Growth mindset in competency-based medical education*. *Medical Teacher*, 43(7), 751-757.
- [12] Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). *From growth mindset to grit in Chinese schools: The mediating roles of learning motivations*. *Frontiers in Psychology*, 9, 2007.
- [13] Sun, X., Nancekivell, S., Gelman, S.A. et al. (2021). *Growth mindset and academic outcomes: a comparison of U.S. and Chinese students*. *npj Sci. Learn.* 6, 21
- [14] Robinson, C. (2017). *Growth mindset in the classroom*. *Science Scope*, 41(2), 18.
- [15] Wang, D., Gan, L. & Wang, C. (2021). *The effect of growth mindset on reasoning ability in Chinese adolescents and young adults: the moderating role of self-esteem*. *Curr Psychol* 42, 553-559.
- [16] Zhao H, Xiong J, Zhang Z, and Qi C (2021). *Growth Mindset and College Students' Learning Engagement During the COVID-19 Pandemic: A Serial Mediation Model*. *Front. Psychol.* 12:621094.
- [17] Dweck, C. S. (2009). *Mindsets: Developing talent through a growth mindset*. *Olympic Coach*, 21(1), 4-7.
- [18] Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). *From growth mindset to grit in Chinese schools: The mediating roles of learning motivations*. *Frontiers in Psychology*, 9, 2007.
- [19] Wang, D., Yuan, F. & Wang, Y. (2022). *Growth mindset and academic achievement in Chinese adolescents: A moderated mediation model of reasoning ability and self-affirmation*. *Curr Psychol* 41, 783-792.
- [20] Huang, Z., Wei, X., Lu, R., & Shi, J. (2022). *Whether and how can a growth mindset intervention help students in a non-western culture? Evidence from a field experiment in China*. *Educational Psychology*, 42(7), 913-929.
- [21] Richardson, D., Kinnear, B., Hauer, K. E., Turner, T. L., Warm, E. J., Hall, A. K., ... & ICBME Collaborators. (2021). *Growth mindset in competency-based medical education*. *Medical Teacher*, 43(7), 751-757.
- [22] Zhao, Y., Niu, G., Hou, H., Zeng, G., Xu, L., Peng, K., & Yu, F. (2018). *From growth mindset to grit in Chinese schools: The mediating roles of learning motivations*. *Frontiers in Psychology*, 9, 2007.
- [23] Sun, X., Nancekivell, S., Gelman, S.A. et al. (2021). *Growth mindset and academic outcomes: a comparison of U.S. and Chinese students*. *npj Sci. Learn.* 6, 21
- [24] Zhao H, Xiong J, Zhang Z, and Qi C (2021). *Growth Mindset and College Students' Learning Engagement During the COVID-19 Pandemic: A Serial Mediation Model*. *Front. Psychol.* 12:621094.