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Growth Mindset Affects Elementary Students

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Abstract

This literature review explores how growth mindset affects all elementary students in the classroom. The review begins by defining growth mindset and describing the benefits of implementing growth mindset into classrooms and schools. Growth mindset is defined in research as, the ability to believe that the most basic activities can be developed through hard work and dedication. Several steps are listed to implement growth mindset into both classrooms and schools. The review goes on to identify how growth mindset affects all students: typical developing students, talented and gifted students, and special education students. Within each subcategory ideas are given to readers to support the growth mindset philosophy based on the needs of the learners. The review describes how to approach the various learners from a growth mindset point of view. Research based tools and resources are provided to give readers multiple ways to implement and support the growth mindset philosophy in both their classroom and school.

Growth Mindset Affects Elementary Students

All schools and teachers have teaching philosophies, beliefs, and theories of which they believe to be true. Beliefs and philosophies can be personal, spiritual, focus on environment planning, implementing instruction, culture and climate, and professional responsibilities. This literature review will explore the philosophy of elementary teachers and professionals whom believe in the trend growth mindset, and how it directly affects all students, special education, talented and gifted, and typically developing. The review will discuss the benefits of adding the growth mindset philosophy into the classroom and some ways in which lower elementary teachers can implement it into all classroom settings.

Growth mindset is defined in research as, the ability to believe that the most basic activities can be developed through hard work and dedication. According to Character Lab (2010), “It is a belief that we can get smarter through hard work and practice. Growth mindset is all about trying hard, using good strategies, and getting the help you need” (p. 1). According to Ricci (2013) learners with a growth mindset believe that they can learn just about anything. “It might take some struggle and some failure but they understand that with effort and perseverance, they can succeed. The focus of a growth mindset individual is on learning, not on looking smart” (Ricci, 2013, p. 2). In a study done by Carol Dweck (2010) kindergarten students came to school thinking that they could learn and be successful. “They were enthusiastic, full of promise, and ready to absorb social and intellectual knowledge” (Ricci, 2013, p. 11). This same study did however note that by the time she reached her third grade study 42% of those students had already developed a fixed mindset and believed their intelligence to be fixed. “This

data sends a message loud and clear: We need to start working with educators and children as early as possible so they can maintain a belief system that communicates that all students can succeed” (Ricci, 2013, p. 11). The question becomes how can this be accomplished.

According to Richard DuFour and Robert Eaker (2014), if one really wants to improve our schools, our work, and the education of our students, there are steps to be taken. It can be done by adopting a new mindset for everyone that would include being humble enough to accept that there are things about ourselves and our practices that can improve, and treating setbacks as formative struggles within the learning process instead of summative failures. The researchers go on to refer to more specific important practices to support growth mindset in the Professional Learning Community (PLC) process. The point of this article was to embrace a driving philosophy in teaching rather than looking at growth mindset as a tool (Hochheiser, 2014).

Based on research from the text *Mindsets in the Classroom* (2013), one of the first things that need to be done is to build a school culture that believes in all the benefits growth mindset has to offer both students and staff. Staff need to be willing to shift their thinking and partake in professional development that will not only encourage the growth of intelligence philosophy but also explains the science behind brain development.

According to Ricci (2013), “neurons make new connections when you learn something new. These connections become stronger with practice and effort. The more connections, the denser your brain is. The more density, the smarter you are” (p. 21). Once the science and philosophy of growth mindset are accepted teacher departments are then able to plan how to implement accordingly to meet the needs of their students.

Growth Mindset in the Classroom

Typically developing students can embrace growth mindset when a teacher demonstrates by example. In research done by Wonder of Children (2011), when a teacher with growth mindset is teaching students, they learn early on that it is okay to make mistakes, to keep trying even when things get hard, to not sweat the small stuff, to take risks, and to seriously instill personal passion encouraging students to strive to do their best.

Based on the research done in *Mindsets in the Classroom* (2013), teachers need to teach students how to react to failure and how to motivate students. “Our goal is to encourage students to internalize the belief that their own actions and behaviors, not external factors, guide them to achievement or failure” (p. 70). Teaching all students this intrinsic behavior is the challenge. Research explains that the reward can be the praise students receive regarding the effort and persistence they put forth coupled with that positive internal feeling that we all get when we have mastered something new. By teaching students to “look at failure or difficulty as a way to get feedback or reflect on areas that need more attention, they possess an underlying belief that they will, with effort, persistence, and help eventually grasp the learning” (Ricci, 2013, p. 72). “When students are faced with failure, it is imperative that opportunities are built in where students can reflect and make adjustments or changes so that they can learn from the situation” (Ricci, 2013, p. 73).

One way in which teachers can help students reflect on failure is to introduce them to a more positive outlook on failure. When teachers teach students to understand that failure is part of the learning process, students learn to accept and appreciate

mistakes as a part of the learning process. Students can increase positive feelings and well-being by taking charge of these three influences. The first one being our thoughts; those who perceive ourselves to be, applying a more optimistic frame on learning. Secondly, students will make steady gains that create a positive feedback loop to encourage continued progress and stimulate brain chemistry. By scheduling challenging subjects immediately following physical education class and recess can help students channel their positive brain chemistry toward learning. “By reinforcing that students can take charge of their outlook on learning and life, and by guiding them to develop metacognitive tools to do so, we empower self-directed learners to pursue a positive path” (Wilson, 2015, p. 3).

“Keep in mind that this is not a one-lesson experience- students need to be constantly reminded that they have the ability to get smarter and that each and every brain has an elastic quality to it” (Ricci, 2013, p. 98). Research suggests in providing students with multiple hands-on lessons to support the idea of growth mindset or brain growth.

Specific examples can be found in *Mindsets in the Classroom*. One such example compares the brain to a sponge and the teacher demonstrates how the brain absorbs knowledge just as the sponge absorbs water. The example is very matter of fact and easy for all students to personally relate to. The main belief of teaching this concept is to instill stamina and the idea of persistence “to never give up” on anything you want. There are many more lesson ideas identified within the book for varying abilities.

Once students are taught the idea of growth mindset, it is essential to introduce the concept of fixed mindset. How and to what extent it is introduced can be adapted

based on the grade level of the students the teacher is working with. For instance, research describes an example of how to compare growth mindset to fixed mindset in the classroom. “Sometimes, people do not believe that they can get smarter with effort. These people have a fixed mindset. Therefore, if you hear yourself saying, “I’m not very good at math or reading or sports,” that is a fixed mindset. Instead, say: “Math is sometimes hard for me so that means I need to always try harder and practice to make my brain stronger in math” (Ricci, 2013, p. 122). By using such examples with students, it encourages them to “think about examples of growth and fixed mindset in their own lives, and in the lives of the characters in books, movies, and TV shows they enjoy” (Ricci, 2013, p. 122). Next, teach optimism. “An optimistic brain is a happy brain” (Ricci, 2013, p. 136). According to Ricci it just makes sense for a growth mindset classroom to be an optimistic classroom. “Researchers have found that a gift many effective educators give struggling students is a practical and optimistic mindset coupled with strategies that help them learn successfully” (Wilson & Conyers, 2017, p. 2). Here are five strategies to help students develop a growth mindset: encourage optimism about learning by modeling, share examples of how you have overcome learning obstacles, share stories that illustrate the benefits of practical optimism, and maintain a positive learning atmosphere by posing questions (Wilson & Conyers, 2017).

Teachers can also do this by introducing strategies such as using a gratitude journal or the gratitude jar. Essentially students are to identify things that they are grateful for on a daily basis. This skill can and should be introduced at an early age to encourage positive character development and growth mindset in the classroom. “By asking students to look at the good in every day, they are training their brain to be

optimistic. Of course, optimism must be modeled and practiced by the teachers and school staff each day” (Ricci, 2013, p. 136-137).

One way to teach growth mindset is to encourage critical thinking and introduce “productive struggle” in math. To offer students plenty of time for puzzling and reasoning, research suggests beginning the lesson with independent work time, moving into the teacher-centered portion of the lesson after students have been studying the problem independently and in pairs, for more than half of their math block. Here are a few reasons why teachers structure math lessons this way. It prioritizes the student-centered portion of the lesson, it builds authentic engagement, it emphasizes that math makes sense, it creates ample opportunity for assessment, intervention, and feedback, and it builds perseverance (Cowen, 2016).

In addition to teaching various strategies of growth mindset, fixed mindset and optimism think of ways that the growth mindset message can and should be embedded within the content of instruction and the learning atmosphere of the classroom. Create a fear-free zone by personalizing lessons by using personal stories of times you were afraid to take a risk due to fear. Encourage mistakes to create a tolerant classroom. Let students choose topics of personal interest to study. “Giving students choices also underscores that they are in charge of their learning” (Wilson & Conyers, 2017, p. 6). Teach empathy, by encouraging students to think about the feelings of others in all situations; students are more likely be honest and make good choices.

Talented and Gifted Students

Growth mindset in talented and gifted students is an intriguing topic as research identifies concerns with labeling children as being “gifted”. Research argues that a better

choice of words would be to use words or phrases such as “high-potential learners” or “highly motivated” (Ricci, 2013, p.89). The reading suggests everyone has potential (not possible) rather than the word gifted”. More than 35 years of scientific investigation suggests that an overemphasis on intellect or talent leaves people vulnerable to failure, fearful of challenges and unwilling to remedy their shortcomings. “This belief also makes them see challenges, mistakes, and even the need to exert effort as threats to their ego rather than as opportunities to improve; it causes them to lose confidence and motivation when the work is no longer easy for them” (Dweck, 2015, p. 3).

According to research, ability is not a static attribute of a person. Ability, giftedness, and talent development apply to all children, not just a select few. The students who held a fixed mind-set were more concerned about looking smart rather than their learning. “They had negative views of effort, believing that having to work hard at something was a sign of low ability. They thought that a person with talent or intelligence did not need to work hard to do well” (Dweck, 2015, p. 3).

Other studies revealed that the most persistent students do not ruminate about their own failure much at all but instead think of mistakes as problems to be solved. For example, some students act defensively to mistakes, denigrating their skills with comments such as “I never did have a good memory” and their problem- solving strategies deteriorated. Meanwhile others focused on fixing errors and honing their skills. One advising: “I should slow down and try to figure this out.” These type of children want to learn above all else and understand that even geniuses have to work hard for their great accomplishments.

Giftedness does not have to mean segregation. Gifted education can happen seamlessly when a teacher in a regular classroom provides more challenge to a student who needs it in class. For example, the truth is it can happen in any individualized literacy class, math class, or a segregated talented and gifted class. The key question though becomes, “Does it provide the kind of learning challenge a particular child needs at a particular point in time?” (Matthews & Foster, 2013, p.3). “As the field of gifted education absorbs the findings on mindsets, it is reverberating with change. It appears to us as the dust settles, not only will exceptionally capable students be a lot more likely to have their learning needs met, but all children will have increased opportunities to develop their gifts and talents” (Matthews & Foster, 2013, p. 4).

Special Education Students

Specific research in regards to special education and growth mindset is a fairly new topic. Most seems to be done within inclusive setting where there are both typically developing and special education students mixed, however I did find an article giving a group of special education students a STEM based experience. One such example, was done by a teacher in Central New York who started an in-school elective intramural school club that gave all her students equal opportunity and something be excited about. The teacher created a Dash and Dot Wonder League Robotics team where students used various problem- solving skills doing robotics and coding. She found many of the students with learning disabilities thrived and actually found coding to be a language that is much easier to follow. When the students ran into obstacles, they worked hard to re-thing and recalculate their solutions. She noticed a huge change in confidence. “A lot of

times robotics and coding is reserved for the gifted kids, but in this case they get to do something that other kids actually want to do” (Lin, 2016, p. 2).

The article went on to further compare and contrast the mindset of the non-special education group. She found there to be more power struggles and arguments about who is the team leader or in charge of the iPad, and when things did not go right they tended to blame the iPad or the robot verses taking proactive action. “Since they’re so used to getting things correct on the first try and succeeding, they were less likely to work hard to solve obstacles when they come up” (Lin, 2016, p. 3). Lin points out that each group of students within this study were working to develop a growth mindset, but the special education group specifically was at a critical point. “Once they get to middle school and high school, there are a lot of kids who don’t end up going to higher education. I want them to be able to go on and accomplish their dreams” (Lin, 2016, p. 3).

Teachers who exemplify a growth mindset model to students the positive benefits of being an individual with an open mind. Growth mindset is especially important while working with students with special needs or on the autism spectrum, as no two students are alike. “People who “get” autism can think outside the box. People who “get” autism try things another way. People who “get” autism are accepting. People who “get” autism are flexible, patient, and caring” (Carroll, 2017, p. 3). By approaching students with special needs with a growth mindset the learning experiences and environment becomes one more positive that focuses on what the student can do with practice and hard work, rather than focusing on the limits of the child and what he/she cannot do in the classroom.

Elementary Classroom Resources and Tools

One research-based curriculum that schools are implementing is one written by movie star and actor Goldie Hawn. The MindUp Curriculum is a “comprehensive, classroom-tested, evidence-based curriculum framed around 15 easily implemented lessons that foster social and emotional awareness, enhance psychological well-being, and promote academic success” (Hawn, 2011, p. 6). According to the text this research based curriculum features lessons that use the latest information about the brain to dramatically improve behavior and learning for all students. “Each lesson offers easy strategies for helping students focus their attention, improve their self-regulation skills, build resilience to stress, and develop a positive mind-set in both school and life. The lessons fit easily into any schedule and require minimal preparation. Classroom management tips and content-area activities help you extend the benefits of MindUp throughout your day, week, and year” (Hawn, 2011, p. 7-8).

Another tool teachers can use in the classroom to help support growth mindset in the classroom is Classroom Dojo. Class Dojo is an online teaching website that offers online learning experiences to help teach growth mindset. There are a series of videos for students to watch focusing on growth mindset, perseverance, empathy, and gratitude. These videos offer personal, relatable topics to children giving the teacher another resource to use and share in the classroom. Keep in mind this tool alone cannot teach growth mindset, as it needs to be embedded into everything you do to truly instill the concept. In addition to the teaching component of this resource is also used as a parent communication tool. Giving parents and teachers the capabilities to support each other to build a strong home school connection full of the growth mindset philosophy.

Suggested tools and resources for classroom use include, growth mindset posters, inspirational quotes, children's books, researching Carol Dweck, Angela Duckworth, and Trevor Ragan, and displaying pictures of people who exemplify growth mindset: Walt Disney, Michael Jordan, J.K. Rowling, etc. These are all just a few ideas in research to help teachers get started with creating a classroom of growth mindset. The lesson planning of activities are endless and growth mindset can be intertwined with any academic area as long as it has represented and presented with the philosophy in mind.

Conclusion

In review, there are many benefits of adding growth mindset to both your classroom and school community. By getting professionals in your school to concentrate more on the process of learning verses test scores teachers are indirectly teaching students that it's okay for each student to learn differently, and at their own pace as long as they continue to learn. "What we need in education is a much better understanding of student learning from a motivational perspective and a psychological perspective" (TED, 2013)

According to research there are six tips for instilling a growth mindset in teachers: "focus on the hard stuff, try innovative solutions and if they don't work, try some more, seek feedback whenever you can, know that you are always developing your skills, reflect at the end of every day, especially the bad ones, and notice the areas where you have a fixed mindset" (Gil, 2016, p. 2-3). In addition, professionals within the field of education, are learners with room for improvement. "In a very "Zen" or holistic manner, Longfellow and Dweck are prompting us to love who we currently are and to keep growing beyond whatever it is we've accomplished today" (Hochheiser, 2014, p. 2)

By combining this philosophy along with learning through mistakes, teachers are instilling the value of becoming a life long learner. When teachers understand it is a constant process, students begin to realize their limits are endless. “Once we learn just how much of our lack of growth is a product of our attitude, it’s not so easy to write things off as impossible anymore” (Gil, 2016, p. 3).

Annotated Bibliography

Carroll, Nancy (2017). *Fixed mindset vs. growth mindset: Understanding autism*.

Retrieved from: <http://nancycarroll.net/fixed-vs-growth-mindset-understanding-autism>

This article compares and contrasts growth mindset and fixed mindset to autism. Each perspective is explained and the author describes how individuals with a growth mindset better understand this disability. The author indicates and suggests that people whom are typically open- minded to autism, try things other ways, are accepting, are flexible, patient, and caring. This was a valuable resource from a growth mindset and special education standpoint.

Chaudhary, S., & Don, L. (2011). Class Dojo <https://ideas.classdojo.com/>

Class Dojo is a behavior management tool for the classroom. Class Dojo gives parents and teachers a way to communicate, builds relationships, teaches many growth mindset traits, and helps manage student behavior. Class Dojo is an excellent classroom resource that supports the character traits of developing growth mindset in the lower elementary.

Cowen, Ellie (2016). *Harnessing the power of the productive struggle*. Retrieved from:

<https://www.edutopia.org/blog/harnessing-power-of-productive-struggle-ellie-cowen>

The purpose of this article is to express the importance of offering students productive struggle in math. Teachers who offer their students opportunities for

puzzling and reasoning build authentic engagement. They also are prioritizing a student-centered lesson, emphasizing that math makes sense, building perseverance, and creating opportunities for assessment/intervention/and feedback. Confronting a challenge is part of the learning process and by teaching this process students begin to approach difficult tasks with more positivity; indirectly teaching the growth mindset mentality.

Duckworth, Angela (2013). Grit the power of passion and perseverance. Retrieved from:

<http://angeladuckworth.com/>

The author of the book, Grit: The Power of Passion and Perseverance, Angela links her TED talk to this website. This clip is not only inspirational but it also describes how she quite her job to become a math teacher. Several years in the classroom taught her that effort was tremendously important to success. The TED talk motivates teachers to dig deeper to connect with students on a psychological level. Students who build grit are practicing growth mindset and building the belief that “life is a marathon, not a sprint”.

Dweck, Carol (2016). Recognizing and overcoming false growth mindset. Retrieved

from: <https://www.edutopia.org/blog/recognizing-overcoming-false-growth-mindset-carol-dweck>

This article identifies things educators do and say that may reflect false growth mindset. For example, praising effort alone, telling students, “you can do anything”, and blaming a student’s mindset are all illustrations of teachers whom

are using a false growth mindset. True growth mindset is a much deeper concept, one that is a philosophy of how an individual lives their life and takes much more time to develop.

Dweck, Carol (2015). The secret to raising smart kids. Retrieved from:

<https://www.scientificamerican.com/article/the-secret-to-raising-smart-kids1/>

The main idea of this article is to highlight on the fact that the secret to raising smart kids is to not call them “smart”. The article goes on to describe how growth mindset affects intelligent children. Growth mindset tells us to focus on the process rather than the talent. However, many educators and parents still approach difficult tasks as threats to their ego verses opportunities to improve. Therefore, once students are taught to approach failure as positive students learn to crave challenges and thrive on solving problems.

Gil, C. (2016). Teachers need a growth mindset too. Retrieved from:

<https://www.edutopia.org/article/teachers-need-growth-mindset-christina-gil>

This article scripts how teachers can develop a growth mindset philosophy. The research identifies how growth mindset is a constant process, and advises in six helpful tips for teachers when trying to instill a growth mindset value. This article is useful not only for practicing growth mindset but also for self- reflection in professional development.

Growth Mindset (2017). Having a growth mindset means understanding that intelligence

can be developed. Retrieved from: <https://characterlab.org/tools/growth-mindset>

Character Lab defines growth mindset and discusses the difference between growth and fixed mindset. It's a resource for educators to get further background on growth mindset and how it benefits classrooms and schools. This website describes what research says about growth mindset by linking a video talk done by Carol Dweck and Greg Walton.

Hawn, G. (2011). *The MindUp Curriculum*. New York, NY: Scholastic.

The MindUp Curriculum is a comprehensive curriculum that guides to help all learners focus and reach their potential through brain-centered management and teaching strategies. The resource offers 15 lessons that use the latest information about the brain to improve behavior and learning for students. Lessons offer strategies to help focus attention, improve self-regulation, build resilience to stress, and develop a positive mind-set in both school and life.

Hochheiser, David (2014). Growth mindset: A driving philosophy not just a tool.

Retrieved from: <https://www.edutopia.org/blog/growth-mindset-driving-philosophy-david-hochheiser>

This article describes how growth mindset is truly a philosophy not a teaching strategy. The article believes the philosophy should not only be held by the teacher, but also the school. Everyone needs to work together to build this

framework. This article was an excellent persuasive article that motivates readers to believe in the growth mindset process.

Lin, June (2016). A special education teacher helps students develop growth mindset through the Wonder league robotics competition. Retrieved from:

<https://blog.makewonder.com/a-special-education-teacher-in-pennsylvania-teaches-collaboration-and-growth-mindset-through-the-ab41cc3ab136#.t81ioovo2>

In June Lin's article she compares and contrasts the differences in learning between students with disabilities and students with no disabilities in a Wonder League Robotics competition. She identifies how much more open-minded students with disabilities are and highlights on the fact that they are much more willing to sustain stamina than the non-disabled group. The author recognizes that the students with disabilities are used to making mistakes therefore, were more willing to try again and grow growth mindset. Whereas the non-disabled student group were not used to getting things wrong on the first try, and were less likely to work hard to solve obstacles as they arise.

Matthews, D., & Foster, Joanne (2013). Mindsets and gifted education: Transformation in progress. Retrieved from: <http://blog.mindsetworks.com/entry/mindsets-and-gifted-education-transformation-in-progress>

This article believes that gifted education is being transformed by growth mindset. It identifies many talented and gifted education myths and offers rational as to

why each is considered to be misunderstood as so. The article “thinks outside the box” and helps educators see talent in all students verses only those based on standardized test scores.

Ricci, Mary Cay (2013). *Mindsets in the classroom: Building a culture of success and student achievement in schools*. Moorabbin, Victoria: Hawker Brownlow Education.

This book outlines the growth mindset process and describes how teachers and schools can implement this teaching philosophy into their building. The book is broken up into ten chapters, is an easy read, and provides a great framework for schools looking to implement the growth mindset into their school. The book starts by describing the science behind growth mindset, offers ways in which schools can build a growth mindset culture, describes how differentiation is important in growth mindset classrooms, and why critical thinking builds class culture. The book relates the growth mindset philosophy to parents and gives teachers concrete examples of how they can teach growth mindset in the classroom.

Wilson, Donna & Conyers, Marcus (2017). Helping struggling students build a growth mindset. Retrieved from: <https://www.edutopia.org/article/helping-struggling-students-build-growth-mindset-donna-wilson-marcus-conyers>

The authors of this article have developed five strategies to help struggling students develop a positive attitude needed for success and a growth mindset.

Students should be encouraged optimism in learning, taught to learn more effectively when things get hard, taught to maintain a success file, use growth assessments, and are given choices in topics of study. This list of ideas is useful to teachers as they're embracing the idea of growth mindset in the classroom and how it will affect all types of learners.

Wilson, Donna (2015). Positive brains are smarter brains. Retrieved from:

<https://www.edutopia.org/blog/positive-brains-are-smarter-brains-donna-wilson-marcus-conyers>

This resource supports optimism and how it affects learning and the brain. When students have a positive outlook they tend to do better in school. The article lists three influences that can increase our positive feelings and wellbeing: our thoughts, behaviors, and brain chemistry. The article also introduces a model for a positive approach to learning: control, influence, and acknowledge. By reinforcing that students can take charge of their outlook on learning, we empower self-directed learners to pursue a positive path.

Wonder of Children (2011). Five things you can do to encourage a growth-mindset in

kids. Retrieved from: <https://wonderofchildren.wordpress.com/2011/07/21/5-things-you-can-do-to-encourage-a-growth-mindset-in-kids/>

This article describes five quick things adults can do to encourage children to develop a growth mindset: ask open-ended questions to solve a problem or achieve a goal, use specific feedback that identifies what the child accomplished,

encourage kids to take risks, be persistent and growth-orientated yourself, and don't sweat the small stuff. Engaging a child in the process can reinforce the value of effort and persistence and help a child understand that mistakes are part of learning.

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