Executive Summary

Teachers at River Valley High School have noticed a recurring trend of low student motivation at River Valley High School. Despite teachers creating meaningful-engaging lesson plans, students generally do not show attitudes of life-long learners. Students only engage with the material superficially. Over the past three years, the trend has evolved from complete apathy to grade obsession. Students complete work as a means to achieve their personal goals, which range from college admissions to material rewards from their parents. However, students never seem to have genuine learning as their main objective. This tendency may also be fostered by the school culture that emphasizes public recognition and rewards. This results in a gap between the students' grades and their understanding or subject mastery. We believe that one of the main issues is that students avoid intellectual challenge. They show a lack of persistence when facing difficult tasks, do not ask meaningful questions, or stay on task if they think they will fail. Students prefer simple repetitive tasks that only encourage memorization and complain to teachers when the classwork requires them to think critically or use problem solving skills. My hypothesis is that this avoidance of challenge is connected to the students' beliefs about their intelligence (about how smart they are). Many students express sentiments like, "This is too difficult for me," or "I'm not smart enough," suggesting a fixed mindset. This mindset is negatively impacting their motivation and intellectual development.

There is not much literature that specifically focuses on language courses. However, I believe a lot of the research and its methods may be able to be implemented in my Spanish classes. It is also possible that students are even less interested in Spanish classes. Thus, it is important to apply the methods that have worked in other subject areas to determine if these are replicable in subjects where students have less interest in learning. My research question is the following: **How does teaching mindset theory affect students' intrinsic or extrinsic motivation among high school students in language courses?** This action research plan aims to explore a potential intervention to address this motivational crisis. The goal is to investigate how explicitly teaching students about mindset theory—the concept that

intelligence is malleable and can be developed through effort—impacts their motivation, classroom behaviors, and academic performance.

The literature review aims to establish a link between the students beliefs, their motivation type, their motivational behaviors and their academic performance. One basic premise and conclusion of this literature review is that students that have growth mindset beliefs show more positive motivational behaviors. Motivation is defined by three observable aspects. First the students' Beliefs about Intelligence and Failure — their mindset (fixed vs. growth) influences their persistence and academic behavior. Second, motivated students show persistence, ask meaningful questions, and voluntarily choose more difficult tasks. Lastly, motivation is influenced by five constructs: perceived competence, control over learning, personal interest, task value, and goals (mastery or performance goals).

This study will be conducted at River Valley High School, a small, independent Catholic high school in Milltown, MA, serving 232 students from diverse socioeconomic and geographic backgrounds. The student body is 58% white, 22% Hispanic or Latino, 13% Black or African American, 5% Asian, and 2% multiracial. Approximately 60% of students receive financial aid, and 97% of graduates pursue post-secondary education. The school is characterized by a high degree of teacher autonomy, a mentorship system for new educators, and monthly professional development sessions. Lastly, parents' involvement is missing in academic areas.

Problem Of Practice

General Idea And Area of Focus

This action plan started after I noticed a general trend at my school. Students do not seem motivated. I have observed multiple classes and noticed how hard some of the teachers were working on creating their lesson plans to make them engaging for students. However, students would generally not engage. I was also working hard on my lessons. I used different types of teaching models. I tried direct instruction and problem-based learning. My lessons were carefully divided into three or four different segments, each one connected to the others. There would always be some fun or engaging component at the end, which also

served as an exit ticket — a formative assessment to evaluate learning. I used social emotional learning strategies— checking in with students, greeting them at the door, talking to them about their lives during class, etc. I used best practices when it came to classroom management and checked for understanding, hoping to get some type of response. Whenever I talked to my students to evaluate how much they had learned, I kept noticing poor results. Either students had no idea of what they were doing, or had some general idea about some things, but were not really trying to learn. For the latter case, students had a grade that "made them happy"; some had As, but it was clear that their understanding did not correlate with their grades. I often wondered if the problem was that I had low expectations. However, when teachers and administrators observed my classes, they agreed that this was not the case; they reported I was one of the few teachers who held students to high standards.

The trend has been evolving over the past three years. I noticed how my students went from total apathy to being obsessed with their grades. This new evolving trend does not help either. Students complete their work as a means to some personal goals. What makes it difficult is that some of the students' personal goals seem good in essence. They are worried about not getting into their first-choice college. They want to play sports. They want the car that their parents promised in exchange for good grades. This seems like the classic behaviorist type of approach and is one that parents generally accept. The school also fosters this type of reward system. Students get awarded for their grades quarterly and annually, with the most important awards being given to a handful of students in the year of their graduation. This would seem like one of the aspects the school has to change drastically in order to make a significant impact on the culture, its narrative, and the message students are internalizing regarding the importance of grades and learning. Realistically, this change is too drastic at the moment. However, it is important to notice that grades or performance are not an indicator of understanding. That is, students do not know how to answer the essential questions of the curriculum or have the practical skills to create the desired products. This lack of skill, I think, is correlated to the students' lack of motivation. When I ask them questions, they say that "they don't know", suggesting that it is ok not to know or that they are not interested as long as they have good grades. During class, only the top performers ask meaningful questions that show interest in learning, and fewer will ask questions that show

understanding. In terms of effort, students do not persist. They ask me questions that they can try to answer by themselves by looking at the textbook and their notes from class. When they are confused, they write an answer even if they know it is not correct. When there is a quiz or test, most of them come unprepared and start studying till they show up for class. Most importantly, when students are challenged, to should try to truly engage with the language; most students avoid the challenge and ask me to just tell them the answer, thus avoiding engagement or critical thinking, or problem solving.

In my last yearly review, I was asked to describe the school's student culture in one sentence. I said that the students avoid challenges. This resembles what I mean when I say that students are not motivated. They have a somewhat safe social environment where they can be themselves and make friends. However, students do not want to acquire the skills that we are teaching them. It is my hypothesis that it's because they are avoiding understanding the material when it's challenging. The problem does not lie just with the teachers. Teachers often discuss this at PD and are often reflecting on their practices and improving every year. I have experienced this myself. I started this plan trying to understand how the tools I used in my classroom affected student motivation. I came to the conclusion that it is not the tools that we used in the process that have the most effect on their motivation; it is the students' mentality. It is the disconnect between their personal goals and their academic goals. It is how they perceive themselves and their beliefs about intelligence. No matter how engaging my lessons are, I often hear the voice of a student say, "This is too difficult for me," or "I'm not smart enough".

I want to learn how students are motivated to learn and to what extent student motivation can improve school performance at the high school level. I teach Spanish courses for all grades at my school. I have benefited a lot by learning about teaching, models, and strategies through this program. I still wonder, however, if there is anything I can do to improve student motivation or interest in Spanish courses. Other teachers who teach other content areas have expressed that their students also suffer from low levels of motivation. They create thoughtful and engaging lesson plans, but students are not motivated. By motivation, I do not mean "engagement" merely. Many of our students raise their hands and

participate — especially if this is a graded aspect of the class — but still do not go beyond their minimum effort or their comfort zone, which is often below mastery and understanding. They are willing to memorize steps and take on easy repetitive work, but are not willing to persist when the work is challenging. Similarly, they do not ask meaningful questions that go beyond plain memorization. As mentioned, I worry that the engagement that comes from the way the class is taught — interesting topics and use of online games — is only superficial and does not equate to improving students' understanding of the material, being interested in it, or embracing challenging tasks. In trying to understand this issue, I will try to answer the question: ***How does teaching mindset theory, whether by direct instruction or other teaching models, affect students' intrinsic or extrinsic motivation among high school students in language courses?***

The goal of this action plan is to explore how teaching mindset — the idea that intelligence is malleable and that the way one believes in one's abilities can improve one's personal development. More specifically, I want to assess if teaching mindset in my Spanish courses affects students' mindset beliefs, their behavioral motivation, their beliefs about challenge and failure, and their challenge-seeking choices. It is clear that motivation goes down more drastically during junior and senior years of high school. However, it is also evident that freshmen and sophomores experience the same at different times of the year. For this reason, I will keep it broad and conduct the study with sophomores and juniors. This will be my Spanish 2 & 3 courses. This will allow me to focus on students who have been in my classes for 1 or 2 years already.

Reconnaissance

This action plan has a lot of interest in the mindset theory. Initially, I understood the basic idea that a fixed mindset impacts students' performance negatively. Similarly, a growth mindset encourages students to develop their critical thinking skills and seek challenge, thus affecting their school performance positively. This plan also reflects on the importance of intrinsic and extrinsic motivation and how these relate to fixed and growth mindsets. As an educator, I strongly value genuine understanding and meaningful learning experiences. I strive to improve myself every year. The last couple of years, I realized that this is an area that

I almost gave up on from the beginning. This is because a mindset seems to be something that can only be determined by the student and how they interact with their environment and external facts. This has not stopped me, and as mentioned, I have tried to boost students' motivation by changing the process, the way my class is taught, the content, and by paying more attention to their personalities and feelings. The results have been that the same students keep failing, the majority of students continue to perform poorly to get an average grade, and the same few students keep passing the class with probably less effort than most of their peers.

My hypothesis was initially that students avoid challenge, but I was not sure why this was the case. While reviewing the literature, I continued under the assumption that it was their beliefs about their own intellectual abilities that made them. Thus, the hypothesis of this action plan is that students are not motivated to ask meaningful questions, to embrace challenge, to ask for extra help, or to produce their best product because they do not believe they have the intellectual skills. That is, students believe they have a fixed mindset, and this makes them prioritize performance and grades over learning. This raised another question: "What type of motivation better describes the behaviors that I want from my students? Initially, I proposed that a challenge-seeking behavior is associated with intrinsic motivation, but I was also worried that my students always have a personal goal in mind when doing their work, which usually has no direct connection to the Spanish content I teach. Hence, regardless of the effects teaching mindset to students could have, learning Spanish would always be a secondary goal. That is, a goal that feels as a means and not an end in and of itself, that is best associated with extrinsic motivation.

Literature Review

Motivation Decline During High School Years

One common trend that has been observed among young adolescents is that their motivation levels decrease when they enter adolescence (Pintrich, 2003; Blackwell et al, 2007; Vestad & Bru, 2024; Altikulac, 2024). According to Pintrich (2003), all social-cognitive aspects of the student's motivation are affected during adolescence. At this age, the young

adolescent’s understanding of intelligence becomes more complex. As children, a simple understanding of intelligence would satisfy them (i.e., I try hard, therefore I am smart). However, as they enter adolescence, Pintrich (2003) suggests that they may differentiate between effort and intelligence. Thus, trying hard could become a synonym of weakness or incompetence. Instead of seeing effort (trying hard) as a synonym of intelligence, their new, more complex understanding differentiates or separates the ideas of “effort” and “competence”. This can result in developing the idea that “too much effort” equals incompetence.

This student's motivational decline can affect grades. It has been suggested that grades may be correlated with students’ motivational behavior (Blackwell et al., 2007; Vested & Bru, 2024). During their research, Vested & Bru (2024) noticed a downward trajectory in grades from elementary to high school levels. This has two implications. First, grades of behavioral and emotional academic engagement decline during high school years. Second, the decline may be caused by the "introduction of grades in lower secondary school, which fosters a more competitive environment" (Vested & Bru, 2024, p. 1432). Blackwell et al. (2007) also suggest that a fixed mindset, along with the increased challenges from middle school to high school junior year, can result in poor performance, meaning low academic grades. The implication is that the student’s mindset (fixed or growth) is linked to the student’s academic trajectory (measured by the student’s grades). Altikulac (2024) also notices that the emphasis on performance as the direct cause of the student motivation decline: "Most Western schooling systems use performance-based assessment... which in part affects the decline in students' motivation in their education" (p.741). The implication is that when school assessment practices over-emphasize pure performance over understanding and social comparison (i.e, saying or implying that student A did better than student B), students are less likely to enjoy the work they do, or to value it as part of their school education, even as a means to some personal goal.

Defining Motivation

Motivation is an abstract idea that needs to be defined for this action plan to have observable and measurable behaviors. These motivational behaviors will serve to collect data and to take actionable steps to improve students' classroom performance. For instance, it is not the same to ask "how does teaching X affect motivation?" than to ask "how does teaching X affect behaviors A and B". The definitions of the term "motivation" that were identified in this literature review involved three main themes. Motivation can be defined as an evolving continuum (Ryan & Deci, 2000; Altikulac, 2024), as challenge-seeking behavior (Yeager et al., 2016, 2019; Blackwell et al., 2007; Vestad & Bru, 2024), or as someone's beliefs regarding intelligence, competence, effort, and failure (Yeager et al., 2019; Haimovitz & Dweck, 2016; Paunesku et al., 2015; Sarrasin et al., 2018; Ng, 2018; Pintrich, 2003).

According to the literature, motivation is a person's beliefs regarding intelligence, competence, effort, and failure. Yeager et al. (2016) observe that students' beliefs about failure can affect performance. For instance, if students fail a math test, they can behave in ways that correlate to their perceived belief that they are not a "math person" (i.e., studying less). In their latter study, Yeager et al. (2019) worked on the premise that "students [can] see intellectual abilities not as fixed but as capable of growth in response to dedicated effort" (p.364), suggesting that it is the students' mindset beliefs (their beliefs about intelligence) that can affect their academic behavior. Haimovitz & Dweck (2016) observe that parents' beliefs about failure can also be transferred to their children and consequently affect their children's academic behavior. When parents communicate to their children that failure is a sign of weakness, children are likely to believe that their intelligence is fixed, making them focus on performance rather than learning. Paunesku et al. (2015) also suggest that students who believe their intelligence is a fixed characteristic (a fixed mind-set) are more likely to worry about proving their ability, whereas those who believe their intelligence is malleable are more likely to show persistence when they fail a task. Lastly, Sarrasin et al. (2018) also subscribe to Dweck's theory of intelligence to suggest that motivation is the extent to which a student's beliefs influence their academic behavior.

The literature also suggests that motivation is a challenge-seeking behavior, like persistence, asking meaningful questions, and embracing difficult tasks (Yeager et al., 2016,

2019; Blackwell et al., 2007; Vestad & Bru, 2024). One of the behaviors that shows increased motivation is choosing a difficult task. For instance, if students are presented with 2 choices – one they know they will complete without effort and one that they are not sure they will succeed at – they choose the most difficult task. (Yeager et al., 2016). More importantly, students make these choices even if they know they have failed by making difficult choices before. In the continuation of their study, Yeager et al. (2019) confirmed that motivation is shown through a growth mindset and that this is concretely shown in the way students "take on more rigorous learning experiences and persist when encountering difficulties" (p.364). Blackwell et al. (2007) also observe that student motivation is manifested in their skill acquisition and their ability to "use effort to overcome difficult situations" (p. 247). In doing so, students show positive academic behaviors like staying late to complete assignments and asking for extra help voluntarily (Blackwell et al., 2007). Vestad & Bru (2024) also suggest that "trying hard" and "staying engaged or focused" in learning environments are observable behaviors that can measure motivation. Additionally, Reeve (2012) notices that engagement involves students asking meaningful questions. That is, questions that "reflect inquiry and investigation…for instance, How did it get there? What was there before? Why is it how it is? Who uses it? How and why did they get involved?" (p. 688). For Reeve (2012), when students are motivated, they not only show emotional investment and persistence in the face of challenge, but they also demonstrate their cognitive effort through deep comments and questions regarding the task they are involved in.

Social-cognitive Constructs Affect Motivation

The conventional dualistic framework of motivation does not fully explain what motivation is, how students change their behavior, and how it affects their school performance. Motivation cannot be reduced to "intrinsic motivation is good and extrinsic motivation is bad". Pintrich (2003) suggests that there are five social-cognitive constructs that can influence how students are motivated. The first construct is the students' perception of their own competence. Essentially, students who believe in their ability to complete a task are more likely to persist than students who do not believe they lack the ability to succeed. The second construct is the student's perception of how much control

they have over their learning. Pintrich (2003) observes that “the general trend is that students who believe they have more personal control of their own learning and behavior are more likely to do well and achieve at higher levels than students who do not feel in control” (p.673). The third construct is the students’ personal interest. This refers to intrinsic motivation since it requires the student to be interested in a task for its own sake. For Pintrich, the implication is that when students are interested in the task for its own sake, they are more likely to show higher levels of engagement or achievement. The fourth construct concerns the student’s perception of the task’s relevance or value. This construct seems to have no direct impact on student performance. However, it can influence student choice. Pintrich (2003) suggests that it can affect the courses students choose. If students believe in their own ability, they are more likely to take a course. The fifth construct (goals) entails that students’ goals can affect student motivation and behavior in the classroom.

Pintrich (2003) also encourages teachers to use mastery goals. He views mastery goals as positive and adaptive for students, comparing them to performance goals, which, according to Pintrich (2003), are less conducive to learning. Mastery goals focus on each student’s "learning and understanding, developing new skills, and a focus on self-improvement using self-referenced standards" (Pintrich, 2003, p. 10). This encourages students to self-improve. Students aim to meet curriculum standards by comparing their previous performance with their current performance. This does not mean that teachers should necessarily ignore standards. The crucial point is that core or state standards are used as a means to self-reference and to measure the student’s self-progress, and not as a way to compare students’ performance against one another. Performance goals focus on the recognition of a student’s individual ability. This occurs when teachers praise students in front of other students, creating an environment where success is measured by outperforming others. Pintrich (2003) notices that performance goals focus on "demonstrating ability, obtaining recognition of high ability, protecting self-worth, and a focus on comparative standards relative to other students" (Pintrich, 2003, p. 10). In that sense, mastery goals are conducive to growth and learning, whereas performance goals can lead to a fixed mindset – students believing that they are not capable when they do not receive praise.

Mastery and performance goals are connected to social-cognitive constructs. Social-cognitive constructs inform how the student will respond to mastery and performance goals. Similarly, depending on the student's beliefs regarding their own intelligence, which is informed by the constructs, mastery goals are associated with positive competence, control, and value beliefs. In contrast, performance goals better align with negative competence, control, and value beliefs. If teachers foster an environment where the only focus is on performance goals, students will find no value in their education. If they do, it will be only consequential – i.e., only as a means to achieve a personal goal. In a performance-based environment, students are less likely to believe they are capable of doing the work; they may see themselves as less competent than other top-performing students, and hence, avoid engaging with a certain task or find ways to get it done without learning.

Table 1: Mastery Goals VS Performance Goals (Adapted from Pintrich, 2003)

Characteristics	**Mastery Goals**	**Performance Goals**
Main Focus	To learn and understand new skills. The focus is on the process of learning.	To get recognition and protect one's self-worth. The focus is the outcome.
Parameter of Success	Self-referenced, self-improvement, progress, and meeting personal proficiency in relation to class standards.	Comparative, success is measured by being compared to others or outperforming others.
Associated Mindset	Aligns with a growth mindset. Intelligence is viewed as malleable and capable of development.	Aligns with a fixed mindset. Intelligence is viewed as a fixed ability that needs to be proven.

Autonomous Extrinsic Motivation

According to Ryan & Deci (2000), extrinsic motivation can be autonomous. Unlike the conventional dualistic framework that presents intrinsic motivation as the 'good' type of motivation and tends to view extrinsic motivation as negative, Ryan & Deci (2000) propose a multifaceted motivation lens. In this view, extrinsic motivation is still defined as "the performance of an activity in order to attain some separable outcome" (p. 71). Conversely, Ryan & Deci (2000, p.70) also agree with the traditional view that intrinsic motivation is a natural inclination and source of enjoyment. That is, doing something for the enjoyment of the task itself, and not for the sake of some external reward.

Ryan and Deci suggest that extrinsic and intrinsic motivation are not necessarily opposites. After all, they are both motivation types. Rather, the opposite of all kinds of motivation is "amotivation". For Ryan & Deci (2000), amotivation is the total absence of a will to act; it is a state where individuals "do not act at all or act without intent" (p. 72). For instance, in this state, students may complete the classwork with apathy, without really desiring to do it, which can lead to very poor results. This is because when students lack a will to act, they do not have an outcome in mind, do not value the activity they are doing in any way, and may not feel competent to perform it (Ryan & Deci, 2000, p.72).

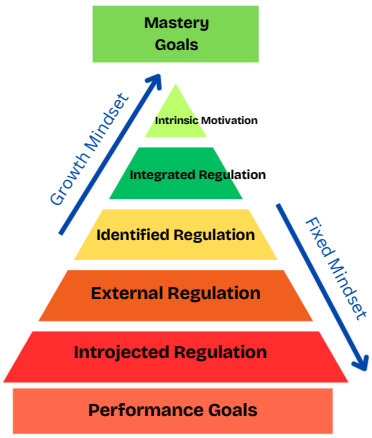
Moreover, Ryan & Deci (2000) suggest that there are four types of extrinsic motivation. The first type of extrinsic motivation is external regulation. External regulation occurs when a student attempts to complete an assignment because to obtain some external reward. For instance, a student's parents may offer him a new video game console as a reward for the student passing the semester with good grades. This is the classic understanding of extrinsic motivation. It is often used to oversimplify the concept. As mentioned, there are three types of extrinsic motivation. The second type is introjected regulation. This occurs when a student acts in order to avoid internal punishment (i.e., anxiety, guilt, rejection, failure, etc). The student's behavior is regulated by their contingent self-esteem. For instance, a student may try to get a good grade on a test because he feels the peer pressure of other students calling him "not smart". The third type of motivation is identified regulation. Identified regulation occurs when a student accepts the values behind the action or goal. When a student is motivated by identified regulation, they recognize the value in their actions as a means to

another primary goal. Students may think, “I do not care about my classes, but getting good grades will help me get into a college that is strong in sports”. Finally, the fourth type of extrinsic motivation is integrated regulation. This occurs when a student not only appreciates the values behind an action but also embraces those values as part of their identity. When students are moved by integrated regulation, they think, “I will do well in biology class because it is an important part of who I am; I want to study biology in college”.

The difference between identified and integrated regulation is that the former involves the student’s internalization of values, whereas the latter concerns the student’s going beyond the internalization process and assimilating the values of the activity as part of their own identity. It is important to notice that students do not need to inherently enjoy what they do when they are motivated by integrated motivation. Similarly, the difference between internalization and integration implies a change in the student’s mindset. When a student integrates a value into their own identity, they are changing the way they view or value an activity, but not the way it makes them feel.

I now propose that Ryan & Deci’s (2000) theory of self-determination can be combined with Pintrich’s theory of goal orientation. Both theories involve the students' goals and beliefs. The implication is that there is a progression from a less autonomous performance- oriented motivation to a more autonomous mastery-oriented motivation (See figure 1). In this view, the idea is not to avoid performance goals at all costs. Teachers should work their way from performance goals to mastery goals. It is a process where students learn to internalize the value of learning first and then integrate it as part of their identity. If this is correct, it remains to investigate where teachers should begin the process to get students to mastery goals and how they can help students move from amotivation to performance goals.

Figure 1: Hierarchy of Self-Determined Achievement



The Positive Effects of Teaching Mindset Theory

Multiple interventions and studies evidence that teaching a growth mindset can improve student motivational and academic behaviors. Blackwell et al. (2007) suggest that in-person mindset workshops can reverse the grade decline that occurs in the early years of adolescence. This academic improvement was experienced by students who would otherwise show low performance, suggesting that low-performing students (unmotivated students) can benefit the most from this type of intervention. As observed by teachers, this academic improvement was reported through measurable and observable behaviors. For instance, teachers reported that students who normally do not turn in assignments on time stayed late and asked for extra help to complete their assignments on time.

These results have also been validated in other studies. Paunesku et al. (2015) administered an online low-cost module to underperforming students. The module also taught students the idea that struggle is an opportunity for growth and not vice versa. The results suggest that “among students at risk of dropping out of high school, each intervention raised students' semester grade point averages in core academic courses” (Paunesku et al., 2015, p.784). Similarly, Yeager et al (2016, 2019) confirm these findings on a national scale. In their study, Yeager et al (2016, 2019) taught mindset theory to approximately 6000 students. The results reported a “reduced fixed-trait, person-focused attributions as well as performance goals” (p.10). When students learn mindset theory through a mix of online and in-person teaching, there is a reduction in the students’ tendency to compare themselves to one another and to prioritize learning over appearances or “looking smart”. Additionally,

Yeager et al. (2019) report that grade averages and course completion also improved as a result of teaching mindset to students.

As mentioned, students mainly demonstrate the positive changes in motivational behavior through the way students respond to challenges. In their revised intervention, Yeager et al. (2019) reduced the tendency to choose easier than harder math problems. The implication is that teaching a growth mindset to students is linked to motivational behaviors that embrace difficult choices for the sake of learning. In their systematic review of the impact of self-determination theory on students' motivation, Ryan & Deci (2000) suggest that teaching mindset theory enhances the students' psychological needs. In other words, it improves their beliefs regarding their own competence, autonomy, and relatedness through the integration of their interests and goals to the challenges they face. Reeve (2012) elaborates on the idea that autonomy-supportive teaching is positive for students. When teachers provide students with a sense of control over their learning, students show a more proactive "agentic engagement", where they begin asking meaningful questions that reflect inquiry and investigation.

When Teaching Mindset Is Not Enough

Most of the literature support the claim that teaching mindset to high school students has a positive impact on student motivation. Students' motivational behaviors improve when they change their failure-averse mindset for a failure-embracing mindset. However, a small part of the the literature suggest that the impact of mindset interventions is more complex and that the results cannot always be guaranteed. In their meta-analysis, Sarrasin et al. (2018) notice that some studies have had mixed results and that researchers do not always provide reasons to explain the inconsistency. For instance, in one of the studies the results seem to indicate that the general effects of the mindset intervention did not have a statistical significance, suggesting that the number of students who reported higher levels of motivation from the intervention was very small. One explanation Sarrasin et al. (2018) provides is that when comparing at-risk students (low-income, low-achieving students, and students transitioning to high school) with non-at-risk students, the impact on their motivation and achievement in subjects like mathematics becomes more significant.

However, Sarrasin et al. (2018) analysis also shows a discrepancy. Students who receive the mindset intervention do not improve their reading skills. The implication is that teaching mindset is particularly beneficial for at-risk students, but that the results may vary across class subjects.

Moreover, Altikulaç et al. (2024) notice that simply changing the students' mindset is not enough. This is because students' achievement goals can also influence students grades and academic performance. Altikulaç et al. (2024) observes that "growth-mindset students with low- or moderate-performance goals had more advantageous outcomes… compared to growth-mindset students with high-performance goals" (p.751). By performance goals, Altikulaç et al. (2024) do not refer to the standards or learning goals of a class. Rather, they refer to the importance that students place on performance-oriented goals. This occurs learning goals that are oriented to compare students performance and their grades. When students internalize a growth mindset and are given low-performance goals, they are more likely to embrace mastery goals that focus on learning and understanding (Altikulaç et al., 2024). in that sense, teachers play a prominent role in motivating students. Teachers can affect a student's motivation who already has a growth mindset by emphasizing "low- performance goals". It is important to notice that, according to Altikulaç et al. (2024), having a student can have a growth mindset, and yet still want to outperform others if their teachers set high-performing goal expectations. This car result in student burnout and low academic achievement (Altikulaç et al. 2024). Yeager et al. (2019) notice a similar trend, where at-risk students (low-achieving students) show more improvement in their motivational behaviors. However, Yeager et al. (2019) observe that the student culture and their norms regarding challenge-seeking behavior can determine the impact of the mindset intervention – student culture that already appreciates effort and completing challenges is more likely to get the most benefit.

Contextual Factors

Note: All names of towns and the school have been replaced with pseudonyms for confidentiality purposes.

School and Teaching Overview

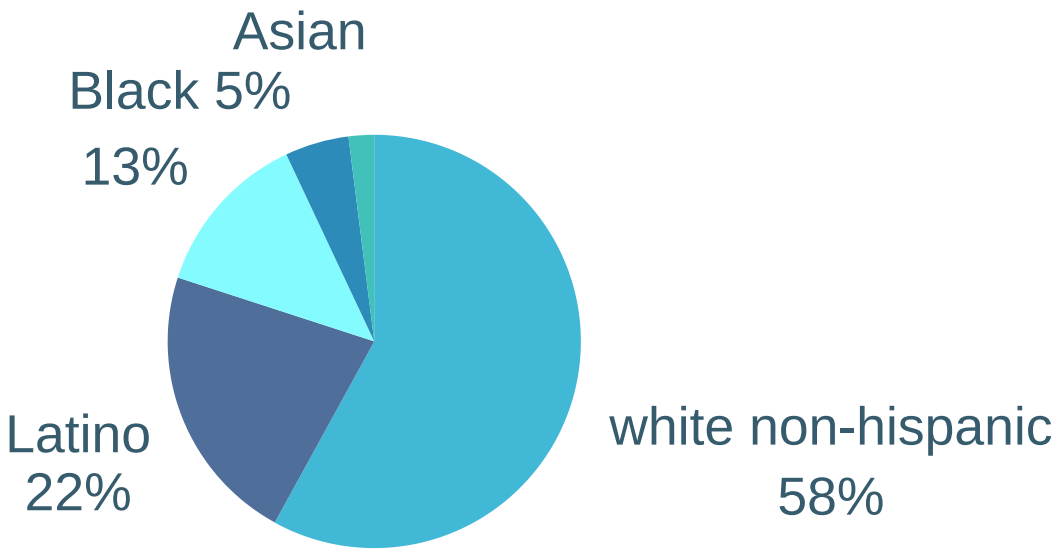
I teach Spanish to students in grades 9 through 12 at River Valley High School, a small private, independent Catholic high school in Milltown, Massachusetts. I am currently the only Spanish teacher at the school. Although the building is leased through the Diocese of Green County, the school operates independently of the diocese in all other respects. This independence provides the school community with flexibility in governance and decision-making but also makes the school entirely responsible for its own financial sustainability.

Geographic and Demographic Context

River Valley serves a student body of approximately 232 students, drawing from a wide geographic region with students commuting from towns within a 30–40 km radius, including both nearby urban centers and smaller rural communities. The school is often seen as an alternative to the regional vocational technical school, and many students enroll after not being accepted into that institution. This regional diversity brings a range of socioeconomic backgrounds and educational histories into the classroom.

The school population is predominantly white, though demographic shifts in recent years have resulted in greater diversity: 58% of students are white non-hispanic, 22% are Hispanic or Latino, 14% are Black or African American, 5% are Asian, and 2% are multiracial. Approximately 60% of students receive some form of financial aid, suggesting that most families have some financial need, and 97% of graduates continue on to post-secondary education.

Pinture 2: School’s demographics



Family and Community Involvement

Parental engagement at River Valley tends to be strong in extracurricular activities—particularly sports—but comparatively limited in academic areas. Teachers typically hear from parents only when a student is at risk of failing, usually toward the end of a term. In many cases, limited parental involvement may be due to work schedules or other logistical challenges that prevent ongoing communication between families and teachers. While families are supportive of the school in general, this limited academic engagement presents a challenge when trying to work together to support student learning.

Instructional Culture and Teacher Autonomy

Teaching practices at River Valley are marked by a high degree of professional autonomy. Teachers are empowered to design and adapt curriculum, choose instructional strategies, and experiment with different pedagogical approaches. A mentorship system pairs newer teachers with veteran educators—often those with public school or 10+ years of experience—who provide classroom observations and feedback. Monthly professional development sessions focus on educational technology, instructional best practices, and social-emotional learning. This model fosters innovation and trust, and in many cases, results in meaningful learning experiences and strong student-teacher relationships. However, the wide range of

approaches and teaching philosophies can also create inconsistencies in academic expectations and classroom culture across different subjects or grade levels.

School Schedule and Student Work Habits

The school day consists of seven rotating periods, with students attending five to six classes per day and typically having one study hall. However, existing data suggests that the majority of students do not use this study hall time productively. A school-wide survey—one of the few conducted in the past five years—revealed that most students use study hall to decompress, watch videos, or play video games. Fewer than 10% of students reported spending more than an hour per day on homework or academic work outside of school. This same survey also showed that students tend to be more focused and engaged during class periods immediately before or after lunch, while attention is lowest during the first and last periods of the day.

Motivation and Academic Culture

Although many students express concern about their grades and aim for honor roll status, teachers across departments have noted a troubling pattern: students often complete assignments without demonstrating real understanding. Academic dishonesty, including the inappropriate use of AI tools, has become more common, and student responses to assessments frequently reveal shallow engagement with the material. Even in well-planned, engaging lessons, students often seek the path of least resistance, doing just enough to complete the work rather than investing effort in learning.

In my Spanish classes, this lack of motivation is especially visible. Language learning may not be perceived by students as a high-priority subject, but I believe the issue runs deeper. My hypothesis is that this disengagement is less about the subject matter itself and more about students' internal beliefs—specifically, their mindsets about learning, intelligence, and effort. While I initially explored game-based learning as a way to improve engagement, I realized that the core issue is not necessarily instructional method. Even engaging lessons fall flat when students do not believe in their own ability to learn or when they are not intrinsically motivated to persist. This insight has led me to explore mindset theory as a more

foundational explanation for the motivational challenges observed at our school.

Data Collection Plan

This action research study employs four different data collection methods to examine how teaching mindset theory affects my students' motivation in my Spanish courses. Each method targets specific aspects of student motivation and mindset beliefs, providing me with data that covers multiple aspects of student motivation (challenge-seeking, beliefs about mindset, beliefs about failure, student effort and engagement, etc). As I have observed in my classroom, students avoid challenges and often say things like "This is too difficult for me" or "I'm not smart enough." These four methods will help me understand whether teaching mindset theory can shift these beliefs and behaviors.

Method 1: Student Mindset Beliefs Survey

Data Source

This tool will measure my students' beliefs about their intelligence in Spanish 2 and 3 courses (sophomores and juniors). That is, whether they have a fixed or growth mindset.

Tool 1: Student Survey

I will administer pre- and post-intervention surveys using Likert scales to measure my students' theories of intelligence. Students will rate their agreement with statements about whether intelligence is fixed or malleable.

Analysis Plan

I will compare pre-intervention and post-intervention survey responses to identify shifts from fixed mindset beliefs toward growth mindset beliefs. The pre-intervention survey will show my students' original beliefs regarding their own intelligence and whether they have a fixed or growth mindset, while the post-intervention survey will measure if there is any change from a fixed mindset toward a growth mindset. This is important as my hypothesis is

that there is a link between a student belief about their intelligence, and their motivational behaviors. According to my hypothesis, students should perform in accordance with their beliefs about intelligence.

Reliability and Validity Considerations: To ensure reliability, I will use the surveys on different groups of students who are working on the same class under the same conditions. This includes students who struggle and are given the mindset intervention, students who don't struggle and receive the intervention, students who struggle and don't receive the intervention and students who don’t struggle and don't receive the intervention (these last two will receive a workshop on study skills instead). At the same time, the variety of student groups will ensure validity. This is because I will be not only following the method employed in the literature (a contrast between at-risk students and non-at-risk students), but I will also be comparing their performance with students that meet the same profile (at risk an non-at- risk), but have not received the mindset intervention.

Method 2: Student Behavioral Motivation Observation

Data Source

This tool will measure my students’ motivational behavior. It will track the frequency of behaviors that indicate a growth mindset and integrated or intrinsic motivation.

Tool 2: Observation Logs

I will employ weekly teacher observation logs to track specific, observable motivational behaviors for a sample of my students. The behaviors I will track include: (a) attempting a challenging/extension problem, (b) asking for help after struggling, and (c) persisting on a difficult task for more than 5 minutes, and (d) asking meaningful questions or making meaningful engaging contributions verbally. The goal will be to identify an increase in positive motivational behaviors during the time the intervention last.

Analysis Plan

I will analyze the frequency of these behaviors over time on a simple chart. My goal is to see if the frequency of these positive motivational behaviors increases over the course of the

intervention. This will help me understand whether my students are beginning to embrace the challenging tasks I have noticed that they normally avoid.

Reliability and Validity Considerations

To ensure reliability, I will have a teacher assistant or a teacher use the same checklist to observe one lesson and compare our charts. To ensure validity, the behaviors on my checklist are concrete and observable, rather than subjective interpretations of what I think students are feeling. These behaviors have been identified and based on the literature that is correctly available.

Method 3: Student Interpretation of Failure and Challenge Reflections

Data Source

For this tool, the source of the data will be my students' beliefs about failure and challenge.

Tool 3: Reflection Prompt

I will give students short, written reflection prompts after challenging assignments or quizzes. My prompts will include questions like: "What was the most challenging part of this task?" and "What did you learn from the parts you found most difficult?"

Analysis Plan

I will code the student responses for recurring themes, looking for a change in language over time from "fixed mindset" attributions (i.e., "I'm bad at this") to "growth mindset" attributions (i.e., "I learned that I need to"). My goal is to look for a change of interpretation of failure throughout the mindset intervention. This is particularly important given what I have observed. When students are challenged, most ask me to just tell them the answer, thus avoiding engagement or critical thinking that sometimes comes with failure.

Reliability and Validity Considerations

To ensure reliability, I will use the same prompts for each reflection. Having the same prompts will allow me to identify patterns. For instance, if the results are mixed for at-risk students who are in different classes despite having the same prompt, it may indicate that the method is not reliable. It cannot be replicated. To ensure validity, I will develop a clear coding rubric for the themes and have a colleague code a small sample of the responses to check for agreement. If a student seems to be improving her grades, but her reflection is either neutral or does not show a shift in her mindset, that could be an indicator that this method is not measuring what it's supposed to measure.

Method 4: Student Challenge-Seeking Choice Tasks

Data Source

This tool will directly measure the frequency of students' challenge-seeking choices.

Tool 4: Low Stakes Formative Assessment

I will offer a low-stakes choice task (adapted from Yeager et al., 2016) bi-weekly. After a lesson, my students will be offered a choice between two follow-up activities: (a) an easier review assignment or (b) a more difficult "challenging" problem that requires deeper thinking, critical thinking, or problem-solving skills.

Analysis Plan

I will track the percentage of students who choose the "challenge" option over the "easy" option each time it's offered. I will graph the percentages over time to see if challenge-seeking increases as I implement the mindset curriculum. My goal is to track challenge-seeking or avoidance behaviors over the course of the mindset intervention. This directly addresses my observation that students in my classes generally avoid challenges. If students continue to ovoid the most challenging choice over the course of the intervention, it would suggest that the intervention is not effective. Similarly, if a significant amount of students chooses the most difficult choice, it will suggest that the intervention has successfully impacted their motivational behavior.

Reliability and Validity Considerations

To ensure validity, the choice must be low-stakes (grade for completion and not for quality) so that my students are making a choice based on motivation rather than a fear of getting a bad grade on the harder problem. I will grade the assignment based on completion regardless of the students' choices. Both easy and difficult assignments will be graded equally. I will also offer the same assignment under the same conditions (i.e., same time of the day, same lesson, etc).

Reflection

What I Learned About Action Research

This semester, I've learned that action research and traditional academic research are different. The goal of traditional research is to "explain, predict, and or control educational phenomena" (Mills, 2018, p.4) through the manipulation of variables. In contrast, action research begins with one's personal experiences, making it more practical. Action research involves teachers studying their own practices with a commitment to "taking action and effecting positive educational change in their own classrooms and schools based on their findings" (Mills, 2018, p.6). Action research is not about creating generalizations of knowledge for professional researchers. Rather, it is about understanding the ongoing problems of my classroom, and identifying possible areas of improvement in the context of my classroom. This is one of the advantages of action research — it produces practical and immediate knowledge that I can put into practice in my classes. Action research creates impactful change and helps me improve my teaching practices.

Another useful lesson was learning about the nature of action research. The four-step process — identify an area of focus, collect data, analyze and interpret the data, and write the action plan — has helped me understand what I need to do to systematically identify problems in my classroom and create solutions that take into account my personal experiences and the research. One aspect of the process that drew my attention was how action research begins, not with reading the literature, but with a reflection on the current

needs in my school and classroom. The suggestion is that action research responds to the specific needs at my school. In this sense, I am the expert who knows the school better than anyone else, and hence, the action plan begins with reflecting on the issues that I experience daily. This is important because action research works best when it supports the environment whose context and problems may be better understood and known by the teachers. I also learned the importance of clearly defining variables and terms. While reading and thinking about my problem of practice, I realized how crucial it is to “operationalize” concepts like "student motivation" or "engagement." These abstract concepts need concrete, measurable definitions to make research more actionable.

My understanding has evolved regarding the value of mixed methods in action research. While quantitative data can provide measurable outcomes, I've learned that qualitative data often captures the individual experiences that numbers cannot represent. For instance, when studying student motivation, grades might show performance changes, but they do not necessarily reveal the underlying dispositions and attitudes that drive learning. This made me value qualitative approaches more, like student reflections, teacher observations, and open-response surveys. As qualitative data collection tools, these tools can help me capture the subjective aspects of the students’ experiences that numbers and generalizations cannot express. However, quantitative and qualitative data are not rigid; they can both be analyzed and interpreted. I can code qualitative data and convert it into numbers. Similarly, I can interpret quantitative data and interpret its semantics. Additionally, action research is not purely about collecting data; it is also about ensuring that the students’ stories are properly depicted. This is why it is important to understand and describe the context and the schools’ diverse background. In doing so, it is important to take into account the students’ cultural background and socioeconomic status. The data should not just show a chart with numbers, but also show how my plan responds ro relates to the students’ diverse backgrounds.

I have also learned a lot about the specific problem of practice that I investigated. The focus of my research has evolved throughout this process. I began by trying to understand how games could improve students' motivation. After reading the literature and reflecting on the nature of my school’s motivational problems and its culture, I realized that the main issue

was not merely the delivery teaching model. Rather, it was also the students' beliefs about learning and their intelligence. After talking to other teachers, and seeing how a young teacher prioritizes relationships and lessons about motivation in his science class, I began considering that the problem could be the students' mindset. Hence, started working on the hypothesis that teaching mindset theory could affect student motivation in some way. I learned that class engagement does not always translate to student motivation or interest in learning. Students could enjoy my engaging class activities without being motivated to learn the content, and this could relate to separate aspects of the class. More importantly, I learned that motivation involves willingness to take on difficult tasks, embrace challenges, and persist through setbacks. I discovered that motivation can be measured through observable behaviors like the students' beliefs about intelligence, the way they verbally describe failure and intelligence, their choice or avoidance of challenge, and their engagement behaviors — asking meaningful questions, staying on task despite setbacks, and asking for extra help.

Future Steps

Working on this action plan has provided me with knowledge and strategies that will help me conduct action research at my school and make informed data-driven decisions. I can now investigate what works for my students. If I notice students struggling with motivation, I can design a plan to understand the underlying causes and test potential interventions. I have learned to be more observant and reflective about my teaching practices. This also entails not only thinking about the issue, but also jotting down the ideas on paper so that these do not simply stay in my head as the "things that bother me". I can now follow the four-step process of action research and go back and forth if needed, depending on what my data collection tools show. I now know that it is also important to integrate students' perspectives, feedback, and reflections in writing for data collection, so that these also do not turn into just "good talks" that I had with the students, but rather help me make sure that I address the students actual needs as opposed to simply acting based on my assumptions about their needs. This will help me improve the way I approach classroom-related issues. Instead of

applying one-size-fits-all solutions, I can now investigate what works for different groups of students depending on their backgrounds.

References

Altikulaç, S., Janssen, T. W. P., Yu, J., Nieuwenhuis, S., & Van, A. N. M. (2024). Mindset profiles of secondary school students: Associations with academic achievement, motivation, and school burnout symptoms. *British Journal of Educational Psychology*, *94*(3), 738–758. https://doi-org.umasslowell .idm.oclc.org /10.1111 /bjep.12676

Blackwell, L. S., Trzesniewski, K. H., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: A longitudinal study and an intervention. Child development, 78(1), 246-263. https://doi.org/10.1111/j.1467-8624.2007.00995.x

Haimovitz, K., & Dweck, C. S. (2016). What Predicts Children's Fixed and Growth Intelligence Mind-Sets? Not Their Parents' Views of Intelligence but Their Parents' Views of Failure. *Psychological Science*, *27*(6), 859–869. http://www.jstor.org/stable/24763587

Lene Vestad, & Edvin Bru. (2024). Teachers' Support for Growth Mindset and Its Links with Students' Growth Mindset, Academic Engagement, and Achievements in Lower Secondary School. *Social Psychology of Education: An International Journal*, *27*(4), 1431–1454. https://doi-org.umasslowell.idm.oclc.org/10.1007/s11218-023-09859-y

Ng, B. (2018). The Neuroscience of Growth Mindset and Intrinsic Motivation. *Brain Sciences*, *8*(2), 20. https://doi.org/10.3390/brainsci8020020

Paunesku, D., Walton, G. M., Romero, C., Smith, E. N., Yeager, D. S., & Dweck, C. S. (2015). Mind-Set Interventions Are a Scalable Treatment for Academic Underachievement. Psychological Science (0956-7976), 26(6), 784–793. https://doi-org.umasslowell .idm.oclc.org /10.1177/0956797615571017

Pintrich, P. R. (2003). A motivational science perspective on the role of student motivation in learning and teaching contexts. *Journal of Educational Psychology, 95*(4), 667–686. https://doi.org/10.1037/0022-0663.95.4.667

Reeve, J. (2012). A self-determination theory perspective on student engagement. In *Handbook of research on student engagement* (pp. 149-172). Boston, MA: Springer US. https://doi.org/10.1037/0022-0663.98.1.209

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*(1), 68–78. https://doi.org/10.1037/0003-066X.55.1.68

Sarrasin, J. B., Nenciovici, L., Foisy, L. M. B., Allaire-Duquette, G., Riopel, M., & Masson, S. (2018). Effects of teaching the concept of neuroplasticity to induce a growth mindset on motivation, achievement, and brain activity: A meta-analysis. *Trends in neuroscience and education*, *12*, 22-31.https://doi.org/10.1016/j.tine.2018.07.003

Yeager, D. S., Romero, C., Paunesku, D., Hulleman, C. S., Schneider, B., Hinojosa, C., ... & Dweck, C. S. (2016). Using design thinking to improve psychological interventions: The case of the growth mindset during the transition to high school. *Journal of educational psychology*, *108*(3), 374 - 391.https://doi.org/10.1037/edu0000098

Yeager, D.S., Hanselman, P., Walton, G.M. *et al.* A national experiment reveals where a growth mindset improves achievement. *Nature* 573, 364–369 (2019). https://doi.org/10.1038/s41586-019-1466-y

Appendix

Tool 1: Student Beliefs Survey

Question	Strongly Agree	Agree	Mostly Agree	Mostly Disagree	Disagree	Strongly Disagree
1. When I find a class difficult, I feel like there's a limit to how well I can do.						
2. The time I spend working on a really challenging class can actually make me smarter.						
3. You're either “good” at Spanish or you're not.						
4. I believe that my brain is like a muscle—the more I use it, the stronger it gets.						
5. You can learn facts and skills in a class, but that doesn't change your basic intelligence.						
6. If I have to try really hard in an assignment, it's a sign that I'm not very good at it.						
7. Putting in a lot of effort is what makes people get better at it.						
8. People who are naturally smart don't need to put in much effort.						
9. I get more excited about a class when the work is challenging and makes me think hard.						
10. If I fail a test, it makes me question whether I'm smart enough for that class.						