Understanding the Importance of Intrinsic Motivation in an Educational Setting

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Abstract

The United States has been falling behind in education in comparison to other countries and this is potentially influenced by the motivation of its students particularly the intrinsic motivation of its students. Intrinsic motivation is defined as being motivated to do some behavior because the behavior itself is enjoyable and rewarding. This review examined intrinsic motivation in terms of the factors that affect intrinsic motivation and the factors that intrinsic motivation affects, the relationship between intrinsic and extrinsic motivation, and the influence of culture on intrinsic motivation. Intrinsic motivation was found to be positively associated with outcomes such as increased perceived competence and indirectly with academic performance. Intrinsic motivation was seen to be more beneficial to students than extrinsic motivation and not associated with negative effects. Extrinsic motivation was associated with a decrease in motivation over time, but in small amounts was shown to increase motivation. Cultural differences were suggested to cause differences in intrinsic motivation such that individualistic cultures were most motivated by freedom of choice whereas collectivist cultures were most motivated when choices were made or influenced by those they had a close relationship to. Implications of creating environments conducive to intrinsic motivation are discussed and it is suggested that increasing intrinsic motivation in the classroom could increase students’ enjoyment of learning leading to an improvement in academic performance.
Understanding the Importance of Intrinsic Motivation in an Educational Setting

In 2015 the drop out rate for students in the United States ages 16-24 was at 6%. This follows a steady decrease in the previous years which suggests some improvement in schools (National Center for Education Statistics, 2015). However, in comparison with the rest of the world PISA, a test that compares academic performance of 15-year-old students in different subjects across the world, showed that as of 2015 the United States had a large percentage of their top performers that scored below the world average in reading and math. This suggests that in comparison to many of the other countries the United States is severely lacking in academic performance. Arguments have been made against the PISA results such that they are not an accurate description of academic performance due to the lack of familiarity many countries have with standardized testing; however, the United States relies heavily on standardized testing and thus this format is familiar to students at this age (PISA 2015 Results, 2016). This suggests that there is an issue with the approach to academics in the United States. Many teachers have attributed this to a lack of motivation in students. Understanding the research behind motivation allows a better understanding of its importance in academics and suggests potential issues with the current educational system.

Motivation can be defined using the self determination theory (SDT) proposed by Deci and Ryan (2000) in which motivation is the process by which people are led by social and contextual factors to produce some behavior. Motivation can be separated into two main categories: controlled motivation and autonomous motivation. Controlled motivation is when a person feels obligated, forced, or pressured to do some behavior. They are motivated by the external values of rewards or desire to avoid punishment. For example, a child who cleans their room because they were threatened by the punishment of losing television privileges is
motivated through controlled motivation because the benefit of cleaning their room is not being internalized into their self, but rather is the external benefit of avoiding punishment. In contrast, autonomous motivation is when a person feels that a choice to do some behavior is their own and aligns with their goals and beliefs. Autonomous motivation does not equate to independence. A state of complete loss of motivation is an amotivated state. This occurs when both controlled and autonomous motivators fail to lead to the production of some behavior.

Motivation can further be defined by intrinsic and extrinsic motivation. Intrinsic motivation is seen as completely autonomous in which motivations for doing some behavior are internalized and done because they are inherently enjoyable and rewarding. For example, if a student is fascinated by the work of Shakespeare, then they can be intrinsically motivated to complete assignments for a class concerning Shakespeare not because they are being motivated by the desire to achieve a high grade, but instead because they enjoy learning about Shakespeare and the desire to learn more is rewarding in itself. In contrast, extrinsic motivation is most commonly a form of controlled motivation, however, can become a form of autonomous motivation. It is defined as doing some behavior in order to receive some external reward such as a tangible reward or social approval or to avoid punishment. Extrinsic motivation is most often seen as controlled motivation because the reliance on some external factor leads people to feel as if they lack personal control over completing the behavior and also leads to the feeling of coercion to do the behavior rather than doing a behavior because it satisfies internal needs. For example, a child may clean his room because of the extrinsic motivator of avoiding punishment versus cleaning his room because the act of cleaning his room and having a clean room motivates him. Extrinsic motivation can become autonomous motivation when it becomes internalized. These motivations are external because they aim to achieve some outcome other personal
enjoyment, however, have been aligned with an individual’s personal needs and desires. For example, a person may exercise not because they find the behavior inherently enjoyable, but because the act of exercise leads to the outcome of increased strength which may align with the individual’s personal desire. As a result, exercise externally motivating to this individual because it leads to some desired outcome, but the behavior itself is not personally enjoyable or motivating. Researchers in this field commonly devise questions about intrinsic motivation and extrinsic motivation based on the social determination theory and attempt to mirror questionnaires of similar studies in order to increase validity of these measures. By basing the questionnaires in the social determination theory, researchers attempt to add consistency in these measures while also adding flexibility to what items they emphasize. However, this also leads to questions of validity and it makes it more difficult to compare results from different studies when the measures are not always comparable.

This review will examine the factors associated with increases and decreases in intrinsic motivation, the relationship between intrinsic and extrinsic motivation and how that impacts students, and the influence of culture on intrinsic motivation. Understanding what mediates intrinsic motivation and what factors intrinsic motivation mediates can lead to a better understanding of classroom environment and can hopefully suggest ways to decrease amotivation in the classroom and increase students’ autonomous motivation in an attempt to increase academic performance and the desire to learn.

**Intrinsic Motivation Associated Factors**

Intrinsic motivation is influential in education because it relies on a person’s internal motivations and enjoyment from what they are learning rather than being dependent on external motivations. If external motivations are removed, then someone who is highly intrinsically
motivated has less trouble maintaining their motivation than someone who is reliant on external rewards as their motivation for completing a task. Intrinsic motivation has been associated with many positive outcomes but is also influenced by many different factors. Learning environment, teacher influence, and even individual differences in students leads to differences in intrinsic motivation which can then suggest possible differences in educational outcomes. As a result, understanding intrinsic motivation becomes incredibly important for understanding educational outcomes.

Intrinsic motivation is also influenced by perceived competence which refers to an individual’s perception of their own capabilities and strengths in some environment or while doing some activity. Gottfried (1990) used teacher’s ratings of intrinsic motivation and self perceived competence in seven-year-old children and examined these same items two years later. This was measured using the Young Children’s Academic Intrinsic Motivation Inventory designed for grades first through third which was developed from the Children’s Academic Intrinsic Motivation Inventory. Both scales are considered valid and reliable based on previous research. It was found that intrinsic motivation was positively correlated to achievement and perceived competence, and negatively related to academic anxiety (Gottfried, 1990). Similar results were found with Freiberger, Steinmayr, and Spinath (2012) using second grade students. They found that students’ competence beliefs mediated their perception of their intrinsic motivation and their perception of their achievement. This suggests that perceived academic competencies have a positive effect on intrinsic motivation. These results make sense because when students feel good about their own abilities and performance, then it can allow for an increase in enjoyment in what they are learning and therefore be motivating to them (Freiberger et al., 2012).
Otis, Grouzet, and Pelletier (2005) also examined how intrinsic motivation changes over time, but focused on students in 8th through 10th grade and the relationships with their academic outcomes. They found that both intrinsic and extrinsic motivation decreased during the transition to high school and continued to decrease. They also found that amotivation increased during the transition to high school, but decreased during 10th grade to return to initial levels. This is surprising considering intrinsic motivation and extrinsic motivation results. Based on the decrease in amotivation an increase in some form of motivation should be seen. In 8th grade intrinsic motivation and amotivation were both related to educational adjustment later on which makes sense since how motivated a student is can directly impact their ability to perform academically. Intrinsic motivation was also negatively correlated with absenteeism and educational aspirations suggesting that students that are intrinsically motivated are more likely to form educational aspirations that relate to their intrinsic motivation and thus see an increased purpose for attending class (Otis et al., 2005).

These effects are not limited to elementary and high school children. Burton et al. (2006) demonstrated the positive effects of intrinsic motivation in college students. They had students come in 2 weeks before their final exam and respond to a questionnaire regarding their well-being using the Satisfaction with Life Scale. Students were also completed the Sheldon and Kasser (1995) perceived locus of causality which examined to what extent students felt that intrinsic motivators were responsible for their mastering of course material. Following the completion of these measures, students were sent home and were sent an email four days before their final exam giving them information about session two. For the control condition the email just contained information regarding the next session. For the intrinsic motivation condition, the email also included a statement thanking students for their continued participation and referred to
the study as looking at how students find the goal of mastering their course material to be interesting and enjoyable. This was to attempt to prime them towards intrinsic motivational ideas and was examined by giving the questionnaires from the first session at the second session following the posting of final exam grades. They found that those in the intrinsic motivation condition had an increased sense of well being, and that this served as a protective factor for psychological well being in students who did poorly on the final exam. The intrinsic motivation condition was not associated with increased grades. However, the intrinsic motivation condition had an impact on how students felt after their exam even when the manipulation was done several weeks prior (Burton et al., 2006). The results that intrinsic motivation were not associated with academic performance may explain results Otis et al. (2005) because they found both a decrease in intrinsic and extrinsic motivation, but also a decrease in amotivation in the 10th grade.

Gottfried, Marcoulides, Gottfried, Oliver, and Guerin (2007) found that initial math scores were related to initial intrinsic motivation scores at age 9 suggesting that following with the previous research it is not that intrinsic motivation is necessarily predictive of academic performance, but rather that academic performance that is predictive of intrinsic motivation. They also found that poor math achievement led to decreases in intrinsic math motivation (Gottfried et al., 2007). Lepper, Corpus, and Iyengar (2005) supported this pattern of results with overall academic performance rather than just math performance which was measured using GPA. Intrinsic motivation was highest when children were younger supporting the findings of Otis et al. (2005) that intrinsic motivation decreases with age. Lepper et al. (2005) also found that intrinsic motivation and academic performance had a high positive correlation. Based on the previous research it may be that academic performance is leading to changes in intrinsic
motivation based on Freiberger et al. (2012) because they found that perceived competence predicted intrinsic motivation and if perceived competence is translated into academic performance, then it is likely that academic performance could be predictive of intrinsic motivation. However, further research will need to be done to determine causality since the research in this area has been predominantly correlation based.

Academic performance is not the only factor that can influence intrinsic motivation. Freiberger, Steinmayr, and Spinath (2012) suggested that how students’ perceive their teacher’s evaluation of their performance can have an impact on students’ intrinsic motivation. They used second grade students to examine this relationship. They found a strong relationship between students’ intrinsic motivation and their perception of their teacher’s evaluation of their performance. This suggests that teachers play an even bigger role in students’ motivation beyond trying to motivate students with external rewards. Teachers seem to be affecting students’ intrinsic motivation and essentially their enjoyment of learning through the perception they give their students. This may be because students’ perception of their teacher’s evaluation of their performance may mediate students’ self competence beliefs in which they evaluate their own performance based on their teachers. Freiberger et al. (2012) had also found that students’ competence beliefs had an effect on their intrinsic motivation. As a result, students’ perception of teacher’s evaluation of their performance may indirectly influence students’ intrinsic motivation (Freiberger et al., 2012).

If the student’s perception of their teacher’s evaluation of their performance can have such an impact on intrinsic motivation as suggested by Freiberger et al. (2012), then it stands to reason that there may be a significant impact of teacher-student interpersonal relationships. Maulana, Ridwan, Opdenakker, and Bosker (2014) defined teacher-student interpersonal
relationships as influence which refers to the level of impact that teachers have on classroom behavior and proximity which refers to the extent that teachers show closeness, friendliness, warmth, and care towards their students. They found that both influence and proximity increased over time which is to be expected because the formation of teacher-student relationships takes time and should increase throughout the school year as teachers and students become more familiar with each other. Both influence and proximity were shown to be predictors of increases in controlled motivation which suggests

The results of Freiberger et al. (2012) suggest that teachers can have an indirect effect on intrinsic motivation. Smit, Brabander, and Martens (2014) examined this effect through student-centered learning compared to teacher-centered learning. Student-centered learning focuses on students’ active responsibility in their education whereas teacher-centered learning focuses solely on what the teacher is doing and how they are presenting the information. They looked at students in pre-vocational secondary education which helps to prepare those students going into secondary education usually as a result of lower test scores. They found that student-centered learning was significantly more effective than teacher-centered learning. Those in the student-centered learning reported more autonomy, more relatedness with their teachers, increased perceived competency, more pleasure, and increased effort on classwork. Freiberger et al. (2012) suggested that students who had increased beliefs regarding self competence had increased intrinsic motivation. Based on Smit et al. (2014) this suggests that if student-centered learning can lead to increased autonomy and increased perceived competency, then it can indirectly lead to an increase in intrinsic motivation. Since intrinsic motivation is characterized by an inherent enjoyment of the task, an increase in pleasure seen with the student-centered learning could also
suggest an increase in intrinsic motivation or the potential for intrinsic motivation in these students (Smit et al., 2014).

Intrinsic motivation is not just impacted by the teacher. It can also be affected by children’s more natural ability to self regulate their emotions. Oriol, Amutio, Mendoza, Da Costa, and Miranda (2016) examined intrinsic motivation and academic engagement as a result of emotional creativity. They defined emotional creativity as the ability to express appropriate emotional responses through the unique combinations of simple emotions. They suggested that those with high emotional creativity do not need to consistently regulate their emotions because they are able to express their emotional experience through the unique combination and understanding of their emotions. They also suggested that high emotional creativity allows students to increase their enjoyment in their learning which directly relates to intrinsic motivation and engagement as well as turn negative emotions in learning into motivational factors without having to go through a more extensive self regulatory process. This becomes important for maintaining motivation in the long term. If students are not having to regularly reiterate their motivations and are able to internalize their learning motivations more, then they can focus more on learning effectively and engaging in the material. They used students ages 18 to 45 and found that increased emotional creativity was a significant predictor of increased intrinsic motivation and academic engagement. They suggested that this was because high emotional creativity allowed students to increase their enjoyment in their learning which directly related to intrinsic motivation and engagement as well as turn negative emotions in learning into motivational factors without having to go through a more extensive self regulatory process. This becomes important for maintaining motivation in the long term. If students are not having to
regularly reiterate their motivations and are able to internalize their learning motivations more, then they can focus more on learning effectively and engaging in the material (Oriol et al., 2016).

Many of the studies looking at motivation have focused on university students or students in middle and high school. Sawyer (2017) modified the previous research to look at the effects of private speech in preschoolers and on intrinsic motivation. Private speech refers to the speech that children use while playing that has no intended recipient. Using three to five-year-old children, he examined how children’s self talk in playful versus non-playful situations can impact their performance and motivation. He focused on mastery motivation in these children which is identified as the persistence that a child shows for mastering some challenging task regardless if they immediately succeed or not. Children were assigned to a fishing task in which they were given a fishing pole with a magnet and a “pond” of fish that had been magnetized so that the fishing pole would attach. Children were measured by the number of fish they successfully caught. The fish ranged in difficulty to catch, but one fish was impossible to catch and was used to measure mastery motivation to see how long the children would continue to attempt to catch the impossible fish. Children in the extrinsic motivation task which was defined as a non-playful context were told that they would receive stickers based on their performance and to try really hard to do a good job. Children in the intrinsic motivation task which was defined as a playful context were told that they were helping a pretend family catch fish for dinner, and that the more fish they caught the more the family would have to eat that night. For both groups private speech was recorded and defined as utterances which referred to any string of speech separated by a period of two seconds. Private speech was separated from social speech by limited private speech to utterances that lacked indications towards another person and included utterances such as muttering or silent lip movements. They found that children in the
playful context had higher mastery motivation and used significantly more private speech throughout. Most of the private speech was used when trying to catch the impossible fish suggesting that it had an effect on the children’s ability to self motivate leading to an increase in mastery motivation and possibly an increase in intrinsic motivation for the activity. However, children in the non-playful context used more motivational private speech such as self-encouragement in the task which may have acted as a further extrinsic motivator. Children in the playful context used more playful private speech which may have acted as further intrinsic motivation by continuing to make the task a play task rather than a required task and thus making the task itself motivation. This suggests that playful private speech may serve motivational purposes rather than just being speech practice and social practice. Playful private speech may also suggest early developmental tracks for children with high intrinsic motivation. Motivational private speech may act as extrinsic motivators and be less internalized because it emphasizes the need to complete the task rather than the want to complete the task by reminding children of the relationship between completing the task and receiving the reward. In contrast, playful private speech could be acting to make the task itself more motivating and thus lead to increases in mastery motivation and potentially higher intrinsic motivation later on. Future research would be helpful in identifying long term effects of increased playful private speech in preschool children on intrinsic motivation in elementary school where motivational factors begin more obviously translating into performance (Sawyer, 2017).

Research suggests that having high intrinsic motivation leads to better educational outcomes and is related to increased positive affect following evaluations. Understanding what leads to increases and decreases in intrinsic motivation can lead to better usage of intrinsic motivation in education and thus better educational outcomes overall. Even more important is
understanding that intrinsic motivation is not just associated with one factor of a child’s educational environment. The way their teachers’ interact with them, their ability to self regulate and be emotionally creative, and their ability to have persistent motivation in difficult tasks all affects how well they are able to intrinsically motivate themselves. As a result, understanding the function and influence of intrinsic motivation is vital for understanding educational development.

Intrinsic Motivation Versus Extrinsic Motivation

Increasing student motivation has been a consistent problem for teachers. Oftentimes they turn to extrinsic means of motivation students in the form of reward systems, point systems, and gamified class elements in an attempt to encourage students to be more motivated in order to improve academic achievement. However, the positive effect of these extrinsic motivators has been suggested to be limited and not lead to long term positive results if overused. In contrast, many researchers have argued that intrinsic motivation leads to some short term positive results, but has the most positive outcomes in the long term. Understanding the balance between these two can lead to improvement of educational and motivational outcomes for students overall.

Deci (1971) was one of the original researchers to explore the effect of extrinsic motivation and rewards on intrinsic motivation and developed the Intrinsic Motivation Inventory. In the first experiment, participants were asked to work on a puzzle and reproduce the configurations of the puzzle on paper during the first session. In the second session the experimental group was paid for each configuration they completed correctly. Motivation of the experimental and control groups was measured by the amount of time participants spent on the configurations once the experimenter left the room and they were given free time to do as they please. When participants were paid, they spent considerably less time doing the puzzle during the free period than participants that were not paid, suggesting that the extrinsic reward of being
paid caused a decrease in intrinsic motivation for the puzzle task itself (Deci, 1971). Lepper, Greene, and Nisbett (1973) found similar results to Deci (1971) using preschool students and non-monetary rewards suggesting that extrinsic rewards in general lead to a decrease in intrinsic motivation. They described this effect as the overjustification hypothesis in which this effect is due to a person’s perception of doing something to receive an extrinsic reward. This hypothesis makes sense given what is known about autonomy. It is not dependent on freedom of choice, but rather autonomy is dependent on a person’s perception on whether or not their actions are their own and align with their own internal motivations (Lepper et al., 1973).

Ulber, Hamann, and Tomasello (2016) offered more support for the overjustification effect and hypothesized that the perception of an extrinsic incentive replaces intrinsic incentives leading to a dependency on the extrinsic rewards that causes a decrease in motivation when those rewards are removed. They used three-year-old children and used a puppet to deliver the treatments instead of just an experimenter in order to decrease cues given through expressions. Children were given a marble task to do with the puppet and at the baseline phase the marbles were distributed so that the child had more. The puppet communicated its desire for one of the child’s marbles and in the praise condition the child was praised for sharing once they gave the puppet a marble while in the reward condition they were told before sharing than if they gave away a marble then they would be rewarded from the prize box. In the second phase, children in the reward condition were told no more rewards would be given and the procedure was repeated as before. In subsequent tests, children were asked to share as many stickers with the puppet as they wanted to. They found that children shared the majority of the time, but children tended to require more requests to share in the reward condition compared to the praise condition. They also found that children gave away fewer stickers in the reward condition than in the praise
condition (Ulber et al., 2016). Warneken and Tomasello (2008) mirrored these results with altruistic tendencies in 20-month olds. They found that when the infants received rewards for their altruistic behaviors such as picking up a cube that had fallen on the floor, they showed a decrease in intrinsic motivation measured by the amount of times a child would help when no reward was given (Warneken & Tomasello, 2008). Both of these studies offer more support for the overjustification hypothesis and suggests that this can have an effect beyond amount of time spent on a task due to the amount the task was seen an intrinsically motivating as shown with Deci (1971) and Lepper et al. (1973). Ulber et al. (2016) and Warneken and Tomasello (2008) showed these same effects in prosocial behaviors in young children suggesting that intrinsic motivation is not just related to performance, but also has implications in very basic behaviors such as sharing.

Deci (1971) established support for the importance of the perception of the reward rather than necessarily what the reward is. In another experiment they used a similar procedure to measure the amount of time participants would spend on the puzzle task during a free period. However, this time instead of monetary rewards they used verbal rewards in which participants were encouraged throughout the task and given verbal rewards for their progress. They found that verbal rewards did not cause a significant decrease in intrinsic motivation as seen with monetary rewards. This suggests that the monetary rewards may be interpreted as control mechanisms that impeded autonomy while verbal rewards are not seen a controlling and thus do not take away form a person’s autonomy. It also offers further support for the overjustification hypothesis because in this case the perception of the extrinsic reward does not overshadow the person’s autonomy and thus there was no decrease in intrinsic motivation (Deci, 1971).
Garaus, Furtmüller, and Güttel (2016) used small rewards instead of verbal rewards to examine the overjustification hypothesis and examined the influence of small rewards versus large rewards on intrinsic motivation and persistence in behavior. If the small rewards are not construed as controlling and do not replace intrinsic motivators with extrinsic motivators, then they can have a positive impact on overall motivation and do not violate the overjustification hypothesis in much of same way that verbal rewards did not have a negative impact on motivation seen with Deci (1971). They used two online classes in which one would receive rewards in the form of small amounts of extra points for short homework exercises completed and the other would receive no rewards for the completion of these exercises. In addition to the homework exercises, students also had the option to complete as many of the 800 preparatory exercises as they wanted to in order to prepare for the final. These questions were used as the free choice measure and amount completed was measured to see how motivation students were when there was no reward available for the exercise. They showed that the small rewards had a positive effect on the persistence for the rewarded behaviors, but also persistence and performance for those behaviors that were not rewarded. This suggests that it is possible to incorporate extrinsic motivators without damaging intrinsic motivation, but while also increasing overall motivation (Garaus et al., 2016).

Previous research regarding differences in performance associated with changes in intrinsic motivation and extrinsic motivation have been short term. Deci (1971) and Lepper et al. (1973) induced these performance changes in an experimental setting over a short term. However, the basis of their research and the overjustification hypothesis suggests that these effects of extrinsic and intrinsic motivation in the real world would become generalized over situations and not just task dependent as shown with these studies. It is also suggested that these
effects could have long term implications on performance and learning. To further examine this, Murayama, Pekrun, Lichtenfeld, and vom Hofe (2013) looked at intrinsic versus extrinsic motivation as predictors of long term mathematic achievement in students. Motivation was assessed using questionnaires that emphasized intrinsic and extrinsic motivation in mathematics. This measure was assessed in two large scale pilot studies and found to have high scores on validity and reliability. They assessed mathematic ability throughout grades 5-10. They found intrinsic motivation was a strong predictor of long term growth in mathematic achievement, but that extrinsic motivation only predicted achievement in the short term and was unable to predict achievement in the long term. This supports an association between intrinsic motivation and achievement, but fails to support previous research that extrinsic motivation is associated with worse outcomes. This could be because the negative effects of reliance on extrinsic motivation are not evident solely in academic achievement. Overall this study emphasizes the longevity of the relationship between intrinsic motivation and performance (Murayama et al., 2013).

Extrinsic motivation is not just reward based, but can also be used in classrooms in the form of gamification which refers to elements in education that are turned into games are incorporate game elements such as point systems and leaderboards in an effort to increase interest in a subject. However, since gamification is just another form of extrinsic motivation it is susceptible to the same issues regarding decreases in intrinsic motivation as with extrinsic rewards. Hanus and Fox (2015) examined the outcomes of a completely gamified course compared to a traditional lecture based course. Intrinsic motivation was measured using Intrinsic Motivation Inventory. The gamified course included traditional game elements such as a leaderboard and badges that could be earned by completing certain tasks. The non-gamified course included all of the same informational materials as the other course, but none of the game
elements. Motivation for the non-gamified course increased initially and was maintained during the semester, however, the motivation of the gamified course decreased at time two and remained lower throughout. A similar pattern was seen for class satisfaction and for intrinsic motivation. They also found a relationship between higher intrinsic motivation and higher final grades. As a result, the gamified course was associated with a decrease in motivation as well as a decrease in grades on the final exam. Too many gamified elements could lead to the perception of students’ motivation being controlled leading to a decrease in autonomy, or it could be that too many gamified elements lead to a decrease in the novelty of these elements and the contrast to other classroom elements which could be much of the basis for why they are effective in the first place (Hanus & Fox, 2015).

Garaus et al., 2016 argued that extrinsic rewards are effective if the rewards are small enough so that they are not interpreted as controlling and autonomy limiting. Based on this previous research it is likely that gamification of class materials may be effective if these are used limitedly and are not applied to the entirety of a class. Mekler, Brühlmann, Tuch, and Opwis (2017) examined the effects of different forms of game elements on intrinsic motivation in a classroom setting using the Intrinsic Motivation Inventory, but examined individual game elements rather than a completely gamified setting. They compared point systems, to leaderboards, to levels, to a plain condition in which no game elements were included during an image annotation task. Participants were judged on the adequacy and number of images annotated. They found that participants in the game element conditions completed more of the images than those in the control condition. They also found that those in the leaderboard and level conditions completed significantly more than those in the points condition. They were unable to find any significant differences in intrinsic motivation. This suggests that gamification
elements can be useful in the motivation to complete classroom tasks while also avoiding damaging intrinsic motivation. This makes sense considering the overjustification effect. The game elements did not give the perception of control nor did they seem to decrease the perception of autonomy and thus intrinsic motivation remained intact for these participants (Mekler et al., 2017).

In an attempt to deal with amotivation in students many teachers are turning to extrinsic motivators such as gamification of lesson plans, point systems, rewards, etc. The evidence suggests that these can be effective in small amounts and more so in the short term. Students can benefit from the incorporation of game elements into learning when these elements are used appropriately such as to increase enjoyment and attempt to decrease stress. For example, when reviewing for an exam it may be beneficial to gamify the information for review rather than to give the information in a lecture format. This gives students a limited extrinsic motivator while also hopefully increasing their interest in the material and thus increasing their intrinsic motivation. However, increasing evidence suggests that overuse of extrinsic motivation has a negative effect of intrinsic motivation in students and can affect later academic performance. To avoid this, teachers must limit the amount of course material that they try to improve by adding game elements or rewards for completing class activities. Teachers must also avoid creating a classroom environment where students’ completion of homework and participation is contingent on students’ receiving some sort of reward such as extra points of candy. By creating this environment students’ are taught to value the course material only in terms of the rewards that they receive. Therefore, a balance between these types of motivations is necessary to create the best possible outcomes for students that relies most heavily on intrinsic motivators rather than extrinsic rewards and programs.
Intrinsic Motivation and Cultural Implications

Traditionally the assumption has been that intrinsic motivation has cross cultural implications, has similar outcomes independent of culture, and is increased and decreased by the same factors. There has been strong support for the appearance of intrinsic motivation cross culturally and for common trajectories, however, research has been fairly divided regarding whether or not the specific elements concerning intrinsic motivation are maintained across groups. The biggest disagreement has been concerning individualistic cultures such as the United States compared to collectivistic cultures such as China. Individualistic cultures are centered on the idea that the individual is independent from others, whereas, collectivistic cultures are centered on the idea that the self is interdependent on others.

The basis for the predominant portion of culture and motivation research has been developed from Iyengar and Lepper (1999). They were some of the first to question the cross cultural validity of what increases and decreases intrinsic motivation through the comparison of Asian American and American elementary school students. Children were given anagram tasks divided into different categories. In the personal choice condition, they were told to choose whatever category they wanted. In the other choice condition, they were told that an experimenter had chosen what category they were going to complete. In the mother condition, they were told that their mother had been contacted and had chosen the category that they most wanted them to do. The amount of time the children continued to work on the anagrams after the task had been completed and they had been given a free period was measured and used to indicate the level of intrinsic motivation they experienced for the anagrams. Both groups experienced the least intrinsic motivation when the decision was made by experimenter suggesting that both groups responded negatively to the decrease in autonomy. However, the
American students experienced the most intrinsic motivation in the personal choice condition suggesting that their motivation was modulated by freedom of choice and that having the choice made for them by both an outsider and by someone with strong personal ties still hurt their perception of autonomy and thus decreased their intrinsic motivation. This pattern of thought fits with the individualistic cultural norm that the self is separate from others. In contrast, the Asian American students were the most motivated in the mom condition suggesting that their motivation was not contingent on having freedom of choice, but rather whether or not the person making the choice was an in-group member. This pattern of thought fits with the collectivistic norm that the self is interconnected to others particularly of the individual’s group. These findings contrast with the original belief that intrinsic motivation is solely mediated by the appearance of choice and suggests the collectivistic cultures may experience increased motivation in response to group choices due to the intense desire to promote harmony and continually establish belonging to the group (Iyengar & Lepper, 1999).

Rudy et al. (2015) and Hagger, Rentzelas, and Chatzisarantis (2014) modeled their studies after the paradigm designed by Iyengar and Lepper (1999). Rudy et al. (2015) applied a similar methodology to Indian, Chinese, and American students and found similar results to Iyengar and Lepper (1999) suggesting that group norms and ideals can influence intrinsic motivation in an educational setting. Both India and China are seen as being more collectivistic in group norms while America is seen as being very individualistic in groups norms. These results not only supported those by Iyengar and Lepper (1999), but also added that feelings of closeness and perception of foresight had a significant positive impact on Chinese and Indian students when they were in a parent-choice group whereas American students had no significant impact of feelings of closeness and perception of foresight in the parent-choice condition. This
further supports the importance of group interconnectedness in motivation for collectivistic groups while also suggesting that group interconnectedness may not positively mediate motivation when self-choice is not an option in individualistic groups (Rudy et al., 2015). Hagger et al. (2014) also used a similar methodology as Iyengar and Lepper (1999), however, they induced collectivistic and individualistic group norms instead. This was achieved by having participants identify with a group of employees exhibiting individualistic norms or collectivistic norms. They were successfully able to induce these group norms as evident by questionnaires examining how closely participants felt they were able to relate to this group and also evident through the replication of previous results seen with Iyengar and Lepper (1999) and Rudy et al. (2015) independent of different cultural groups suggesting that these effects can be culturally relevant, but are not culturally dependent and are a product of the valuing of interdependence or individualism.

Areepattamannil, Freeman, and Klinger (2011) compared motivation in Indian adolescent immigrants in Canada to India adolescents in India. Both groups shared a common cultural background, however, had been involved in different educational systems. They found that overall school GPA was significantly higher for the immigrant group compared to the non-immigrant group. However, this result can be argued to be dependent on differing school structures and grading scales. Therefore, overall school GPA is likely not a valid comparison, but can be effective in examining within group changes as a result of intrinsic and extrinsic motivation. Results should also be interpreted with caution due to potential differences in types of families that choose to and are able to immigrate. Extrinsic motivation negatively predicted academic achievement for the immigrant group while intrinsic motivation positively predicted academic achievement in the non-immigrant group. Extrinsic motivation was not a predictor for
academic achievement for the non-immigrant group, but was higher than the immigrant group and was higher than intrinsic motivation in the non-immigrant group. This suggests that cultural backgrounds do not remove the need for autonomy over controlled motivation, but that the motivational differences seen with Iyengar and Lepper (1999), Rudy et al., 2015, and Hagger et al. (2014) are the product of differences in what is defined as autonomous motivation versus controlled motivation. This also suggests that regardless the educational or cultural background intrinsic motivation is associated with better academic performance while extrinsic motivation can lead to a decrease in performance (Areepattamannil et al., 2011).

Bao and Lam (2008) argued against the research of Iyengar and Lepper (1999) on the basis that previously autonomy was only related to freedom of choice. They suggested that it was socioemotional relatedness, which they defined as closeness to immediate members of the group such as the mother, would modulate the effects of freedom of choice. However, this ignores the inclusion of the other choice condition in the research of Iyengar and Lepper (1999) in which the Asian American children were more intrinsically motivated in both the mother choice condition and the personal choice condition than in the other choice condition. This contradicts Bao and Lam (2008) because these results suggest that it is not the lack freedom of choice that is mediating autonomy for Chinese American students, but rather who is making the decision and whether or not that choice gets internalized and accepted. However, Bae and Lam (2008) do offered a potential mediator of this difference in autonomy seen in collectivistic cultures. They suggest that increased socioemotional relatedness is what leads to students accepting a lack of personal choice without having a decrease in intrinsic motivation. They found that when Chinese children were enrolling in a class the children that overall children that chose to enroll in the course had higher intrinsic motivation in the course, but if the child had high mother-child
socioemotional relatedness then they did not have a decrease in motivation when it was the mother’s choice to enroll them in the course. This offers an explanation for why children in collectivistic cultures may be able to sacrifice their freedom of choice without a loss of motivation due to their cultures’ high emphasis on family interconnectedness while children in individualistic cultures suffer a loss of motivation when personal choice is removed due to their cultures’ high emphasis on the self and independence (Bao & Lam, 2008). Rudy et al. (2015) added to this research by examining acceptability of parent-choice in trivial and important decisions in both Indian and American students. It was found that Indian students found it more acceptable for their parents to make the decision compared to the American students. There was a positive relationship between acceptability and intrinsic motivation suggesting that differences in these cultures may be a mixture of the influence of socioemotional relatedness in cultures where family relationships have increased importance as well as the perceived acceptability of familial involvement which is also likely mediated by collectivistic and individualistic differences (Rudy et al., 2015).

Nishimura and Sakurai (2017) argued against previous research by suggesting that in East Asian cultures students’ motivation moves from autonomous to controlled rather than autonomous and intrinsic motivation being equally represented cross-culturally. They used to examine the change in intrinsic and extrinsic motivation in students during their 7th and 9th grades. They found that intrinsic motivation was highest in the 7th grade, but decreased in 9th grade. Introjected regulation, which they defined as extrinsically based motivated behaviors to avoid guilt or shame and to enhance ego and feelings of worth, was lowest in the 7th grade and increased by the 9th grade. External regulation also followed a similar pattern and increased across all grades and can be considered extrinsic motivators and controlled motivation. However,
previous research has suggested that intrinsic motivation also decreases in later grades in Western cultures and extrinsic motivation increases. Therefore, without a cross cultural comparison it is difficult to assess whether or not these results offer a viable alternative to previous cultural research on motivation. Iyengar and Lepper (1999), Rudy et al., 2015, and Hagger et al. (2014) argue that motivation across cultures requires autonomy predominantly over control. Nishimura and Sakurai (2017) may be correct that motivation is moving from autonomous to controlled as well as more extrinsically motivation rather than intrinsically motivated over time, but they do not include the academic outcomes associated with this pattern. These results may suggest that actuality in Japanese school, and potentially in schooling across cultures, but do not appear to reflect the ideal balance of intrinsic and extrinsic motivation in Japanese students compared to students in differing cultures (Nishimura & Sakurai, 2017).

Much of the previous research has relied on questionnaires that broadly assess intrinsic and extrinsic motivation in students. Wang and Guthrie (2004) broke down intrinsic and extrinsic motivation into multiple constructs in order to get a better and more holistic view of differences in motivation in American and Chinese students. Intrinsic motivation was divided into curiosity, involvement, and preference for challenge while extrinsic motivation was divided into recognition, grades, social regard, competition, and compliance. This helped to eliminate some of the limitations of previous motivation questionnaires that examined both intrinsic motivation and extrinsic motivation only as a whole and did not allow for variations in how motivation was experienced by the students. They found that for American students text comprehension was most related to involvement and preference for challenge and was negatively associated with social regard. For Chinese students they found that text comprehension was positively related to curiosity, involvement, and preference for challenge and much less related to recognition, grades,
social, competition, and compliance. This suggests that intrinsic motivation was more strongly related to text comprehension for both the American and Chinese students in comparison to extrinsic motivation. This supports Iyenegar and Lepper (1999) in that intrinsic motivation is seen and is important cross culturally. However, does not include socioemotional relatedness in the questionnaires. As a result, it can be argued that social regard and compliance included in extrinsic motivation may pertain to situations involving members of the out group (individuals that are not part of the family circle), but if they were limited to situations involving members with high relational closeness then these may be intrinsic motivational factors. The importance of this is that it allows for differences in intrinsic motivation across cultures to become evident and to further put this research in cultural context. This research also supports that of Areepattamannil et al. (2011) because it further suggests that intrinsic motivation is positively related to improved academic outcomes such as text comprehension. This study also compares an individualistic culture and a collectivistic culture which Areepattamannil et al. (2011) was somewhat limited in even with the use of India residents versus Indian immigrants in Canada and suggests that the positive effects of intrinsic motivation are not culturally limited (Wang & Guthrie 2004).

Vitoroulis, Schneider, Vasquez, Soteras de Toro, and Gonzáles (2011) expanded research concerning cultural influences on intrinsic motivation to include Canadian children, Chinese Canadian children, Cuban children, and Spanish children. The goal of the Cuban sample was to include the family orientations of Hispanic countries while also having higher academic expectations for education than other Latin American countries. Both the Cuban and Spanish sample also offer the difference of how familial support is portrayed. In these countries, the children often consider their parents as their main source of support and companionship in
contrast to individualistic countries like Canada where the reliance on parents is much less severe. They found that the Chinese Canadian children had significantly higher intrinsic motivation scores than the Canadian children, but there was no significant difference in intrinsic motivation scores between any other groups. The higher intrinsic motivation seen with Chinese Canadian children may be related to differences in intrinsic motivation in these groups. Chinese children may have more influence from their parents and previous research from Iyengar and Lepper (1999), Rudy et al., 2015, and Hagger et al. (2014) suggests that this parental influence has a positive effect on intrinsic motivation in collectivistic cultures such as China compared to Canadian children where intrinsic motivation seems to be more related with freedom of choice which may be limited in their educational environment. Within the other groups, the lack of difference in intrinsic motivation may be due to similar motivational structures to the Chinese Canadian and Canadian groups or it may be that these children are equally motivated, but intrinsic motivation is not the leading factor in their motivation. It could also be due that Cuba and Spain do not define as clearly as individualistic or collectivistic and thus collectivistic norms seen with East Asian cultures regarding motivation may not be applicable to Hispanic cultures (Vitoroulis et al., 2011).

Thijs (2011) compared academic achievement motivation in ethnic Dutch students compared to Turkish-Dutch and Moroccan-Dutch students. This contrasts individualistic norms and collectivistic norms like previous research, but also contains the added component of the differing views on child-rearing found in Turkish and Moroccan populations. These parents are characterized by being focused on obedience and respect for authority in children. They tend to believe in a more controlled socialization of their children and expect teachers to act in an authoritarian manner towards the children. They combined the results for Turkish-Dutch and
Moroccan-Dutch students due to the similarity in the cultures and found that for these students’ intrinsic motivation was positively related to desire to please the teacher and teacher dependence. This effect was not seen in the ethnic-Dutch students suggesting that for the ethnic-Dutch students there is not a strong relationship between intrinsic motivation and teacher factors which follows differences seen in individualistic cultures in the previous research of Iyenegar and Lepper (1999) and Hagger et al. (2014). They found that intrinsic motivation was not positively mediated by mother influence in individualistic cultures suggesting that a similar pattern is likely to occur with teacher influence. This positive relationship with intrinsic motivation and teacher factors seen in the Turkish-Dutch and Moroccan-Dutch students also supports the research of Iyenegar and Lepper (1999) and Hagger et al. (2014) in which the intrinsic motivation of collectivistic cultures is suggested to be influenced by members of the in-group. Previous research focused on the influence of the mothers in particular rather than teachers. Potentially this effect would also be seen in teachers if they are considered part of the in-group in other collectivistic cultures. However, it could also be that the authoritarian child-rearing practices of Turkish and Moroccan parents that emphasize respect for authority are somewhat unique to these cultures and are less prevalent in other collectivistic cultures. Research including the paradigm presented by Iyenegar and Lepper (1999) would be beneficial in comparing intrinsic motivation in East-Asian cultures compared to Middle Eastern cultures. This research could also include a teacher condition in which participants are told that the decision was made by their teachers which would suggest if the positive relationship between choice other than self-choice and intrinsic motivation was only limited to the parent-choice condition or if a teacher-choice condition would produce the same effects. In East-Asian cultures this effect may be limited to parent-choice because teachers may not be considered to have enough socioemotional
relatedness, whereas, in the Middle Eastern cultures the authoritarian parenting style may cause these effects to also translate to teacher-choice conditions because teachers may be included as members of the in-group because they are regarded as figures of authority that demand respect from the students (Thijs, 2011).

The elements of intrinsic motivation have previously been believed to be universal. However, much of the evidence suggests that while the positive outcomes associated with intrinsic motivation remain consistent across cultures there is some difference in what increases or decreases intrinsic motivation across cultures. Understanding this is key to providing a motivating and supportive teaching environment. These results suggest that autonomy is not represented in the same ways across cultures and that personal freedom of choice does not always equal an increase in intrinsic motivation. For teachers to attempt to decrease amotivation in their classes, they must be aware of cultural differences that may be causing decreases in intrinsic motivation.

Discussion

Intrinsic motivation has been shown to have important effects on later academic performance as well as to be affected by many different external factors such as teacher influence, absence or influence of external motivators, and culture. It is important to understand these concepts individually in order to fully comprehend the complexity of motivation in education. Research suggests that there is more involved to motivation than just whether or not a student completes their work. There is involvement of students’ previous education experiences, their interests, the cultural backgrounds and belief systems, as well as how their teachers are attempting to motivate them at the time. Education has often been focused on a quick fix to motivation in students through the use of external rewards, grades, and point systems. Research
suggests that this may only have short term effects and may not be as effective as it is believed to be. Thus, understanding the mechanisms behind intrinsic motivation and motivation overall is incredibly important in order to better structure education to match the children.

Academic performance and intrinsic motivation have been shown to have a strong relationship (Gottfried, 1990; Otis et al., 2005; Gottfriend et al., 2007; Lepper et al., 2005). However, the causality of this relationship remains undetermined. Originally it was believed that changes in intrinsic motivation led to changes in academic performance, however, Freiberger et al. (2012) suggested that it may be academic performance that is mediating the effects seen with intrinsic motivation or that it is at least a two-way link between the two factors. They suggested that competence beliefs predicted intrinsic motivation and that competence may also predict academic performance. As a result, as academic performance increases, then perceived competence may increase and indirectly intrinsic motivation may increase. Research has yet to establish a causal link between intrinsic motivation and academics, but the strong correlation between them suggests that intrinsic motivation should be a significant concern of teachers if they are wanting to improve academic performance.

Not only should intrinsic motivation be an important concern of teachers in terms of academic performance, but teachers should also be concerned with their influence on intrinsic motivation in the classroom. Freiberger et al. (2012) suggested that students perceive their teachers’ evaluations of their performance and that this affects their personal competence beliefs. As stated previously, competence beliefs have been thought to connect intrinsic motivation and academic performance to some extent. If this is true, then it becomes important for teachers to be aware of what perception they give their students and attempt to address that perception if it becomes an issue. Maulana et al. (2014) emphasized the importance of teacher-student
interpersonal relationships and further suggested that how teachers behave toward students and the perceptions they give their students can have an impact on how motivated students are in the class.

The importance of intrinsic motivation has not been limited to its direct effect on academic performance. Oriol et al. (2016) suggested that intrinsic motivation can have a positive impact on emotional creativity which allows people to express appropriate emotional responses and process their emotions without extensive emotional regulation. They argued that this increases the likelihood of being able to maintain motivation in the long term. A similar effect was seen with Sawyer (2017) with private speech in preschoolers where intrinsic motivation was associated with increased mastery motivation. In both studies, intrinsic motivation was associated with positive outcomes other than academic performance suggesting that intrinsic motivation has numerous applications and positive implications. If intrinsic motivation is increased in the classroom, then it has the potential to spread to other areas within a child or student’s life with potentially good results.

Schools and universities have increased the usage of extrinsic motivators such as gamified learning elements, point systems, or rewards such as badges in order to increase interest in the subject. However, research has suggested that the benefits of intrinsic motivation outweigh the benefits on extrinsic motivation. Deci (1971) showed that participants spent considerably more time on an activity when they were intrinsically motivated to do the activity rather than when they had previously been extrinsically motivated to do the activity. Other research supports this and suggests that intrinsic motivation leads to an overall increase in motivation even when no incentive is present (Ulber et al., 2016; Lepper et al., 1973). As a result, increasing intrinsic motivation in the classroom seems to be more effective because it helps to make learning
inherently motivating, it can increase the amount of time spent working at an activity, and it does not require consistent monitoring in order to ensure that appropriate behaviors are rewarded so that levels of motivation are maintained.

Not only is intrinsic motivation associated with increased positive outcomes, but extrinsic motivation has been associated with many negative outcomes. Ulber et al. (2016) and Warneken and Tomasello (2008) suggested that the overuse of extrinsic motivators can lead to an overjustification effect in which the perception of an extrinsic incentive replaces intrinsic incentives leading to a dependency on the rewards so that when the rewards are removed the motivation declines. It seems that when an individual is already intrinsically motivated to do some behavior and an extrinsic reward is added to that behavior, then the reliance on the intrinsic motivation decreases and as a result the reliance on the extrinsic reward increases. This becomes problematic when the reward is removed or when the behaviors are not consistently rewarded because if the reason for completing the behavior was to receive the reward and then there is no reward, then there is no reason to complete the behavior in the future (Ulber et al., 2016, Warneken & Tomasello, 2008; Deci, 1971; Lepper et al., 1971). This problem is also seen in classrooms in which all learning material has been gamified. Hanus and Fox (2015) found that when a course was completely gamified there was a decrease in motivation and a decrease in academic performance in the course. The argument was that the overuse of gamified elements caused students to perceive their motivation as being controlled rather than due to their own decisions and influence. This suggests that the overuse of extrinsic motivators such as gamified elements and rewards is not causing the desired effect in classes and may be detrimental to increasing motivation within the classroom.
While research has been supportive of the negative effects of the overuse of extrinsic motivation, there has been some support for a limited use of extrinsic motivation having a positive effect on motivation and performance. Garaus et al. (2016) and Mekler et al. (2017) argued that the use of small rewards such as a fraction of a point for completing an extra exercise or the use of a singular gamified element versus several can increase overall motivation. They both found that using these elements participants were significantly more motivated to complete more of the task assigned, then those who do not have any of these elements. This suggests that limited use of extrinsic motivators could potentially complement the positive effects of intrinsic motivation leading to an overall increase in motivation in the classroom.

In order to increase overall motivation within the classroom using intrinsic motivation it is important to understand how motivation changes across cultures. Research has suggested that benefits of intrinsic motivation are relevant cross culturally and have similar outcomes (Areepattamannil et al., 2011). However, the causes of increases and decreases in intrinsic motivation seems to be different across cultures. Individualistic cultures seem to be most intrinsically motivated when they have more choices; however, collectivistic cultures seem to be the most intrinsically motivated when choices are influenced or decided by someone with personal ties to themselves such as their mother. This aligns with the overall differences in these cultures. Individualistic cultures are characterized by independence, whereas, collectivistic cultures are characterized by interdependence with members of the in-group. This suggests that while motivation seems to be universally experienced and important, there are fundamental differences in what factors lead to changes in motivation. Teachers, must be aware of these differences especially when teaching classes with high amounts of diversity in order to achieve a high average of motivation across students. It is important to understand that some students may
be much more motivated by freedom of choice, while other students may be more motivated by teacher choice is a strong relationship to the teacher is established.

Teachers should work to create intrinsic friendly environments in which extrinsic motivators and rewards are used sparingly and students have more control over their learning (Ulber et al., 2016, Warneken & Tomasello, 2008; Deci, 1971; Lepper et al., 1971). In order to do this, teachers must understand which behaviors require extrinsic motivation the most in order to avoid attempting to motivate behaviors that were not lacking in motivation. This can be done by identifying what behaviors are already intrinsically motivated and inherent. For example, in a preschool classroom if sharing is not an issue among students, then sharing should not be extrinsically rewarded. By rewarding students when no reward is needed it undermines students’ intrinsic motivation (Warneken and Tomasello, 2008). Teachers can also create intrinsic friendly environments by allowing students to have some influence over their learning when appropriate. This allows students to have ownership over their learning and helps to decrease the feeling of controlled motivation (Smit et al., 2014). This also allows students to increase their teacher-student interpersonal relationships because it helps students to feel that their teachers are aware of their wants and needs and are attempting to respond to them. By building stronger teacher-student interpersonal relationships this can hopefully decrease any negative perception by students of their teachers’ evaluation of their performance. If the relationships are strong enough, then students can have more clarity as to what their teachers’ evaluations of their performance are and teachers can have relationships that allow for increased positive communication of students’ performance (Freiberger et al., 2012). If teachers take all these factors into consideration, then they can potentially increase their students’ intrinsic motivation and create a
better learning environment which could potentially translate to an increase in academic performance.

The results from PISA 2015 offer a poor overview of the education system in the United States (PISA 2015 Results, 2016). If scores are to improve, it must be understood what factors are leading to these results. Even if a decrease in autonomous motivation is not directly leading to a decrease in academic performance, there is a strong relationship between the two and this needs to be addressed in order to improve educational environments which could lead to an improvement in academic performance. Specifically, intrinsic motivation seems to be important in students’ educational development. Classrooms should foster this internal motivation in an attempt to increase students’ interest in academics and hopefully increase their performance due to their desire to do well. It is also important to take cultural differences into consideration not only within the classroom, but also when examining PISA scores across different countries because looking at what one country is doing that is leading to the success of its students may not be applicable to the United States due to cultural differences and specifically differences in how motivation functions across cultures. The understanding of motivation within the educational system is lacking, but its understanding is necessary if the United States is to improve the learning environment of its students.
References


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