THE IMPACT OF ATTRIBUTION RETRAINING FOR INCREASING STUDENT MOTIVATION

By

James McDowell

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Abstract: Motivation is a foundation for academic success, yet it presents formidable problems for many students. While students of every type experience lack of motivation, one group of students more afflicted is the learning disabled, many which eventually develop learned helplessness due to their repeated failures. This phenomenon is examined in this paper by reviewing the literature on attribution theory and its relation to educational motivation in an effort to determine if attribution theory can be used to increase motivation in such students. The research of the use of AR success and failure in the school setting is examined to further determine its effectiveness and describe its usefulness. Research is reviewed which examines evidence of success with the learning disabled when used with specific learning strategies and in small groups. Implications and recommendations for educators are discussed including a proposed experiment to further the knowledge of using AR to increase students struggling with motivation problems.
Introduction

The importance of developing sound educational methods based on quality research is a main priority of educators today considering the many challenges students face in both their academic and personal lives. Educators want to understand all the impediments which can hinder a student’s success, even if the problem only affects a small segment of the student population, educators want strategies to overcome them. Also, with the recent emphasis in education on response to intervention, the need to identify intervention practices to help students succeed and especially struggling students to recover academically is critical not only to student success, but for schools to meet annual yearly progress.

One such impediment is student motivation. Intervention practices on how to motivate students have always been of topic of concern for educators and extensive research has been done to understand how to best motivate students. Many finding have been discovered and are used in schools today, and yet we still find unmotivated students. So the question persists: what can be done to help the unmotivated student? To really help unmotivated students succeed an understanding of human motivation is required. The study of human motivation has been the work of many psychologist and researchers who have proposed different theories concerning human motivation and what can be done to help the unmotivated achieve more. The theory of attribution is one theory which states people explain success and failure as either something a person can or cannot control. When a person feels the outcome of an activity is beyond their
control their motivation diminishes and will cease working towards their goal. The theory has achieved wide acceptances in the field of psychology. Subsequently, the theory of attribution retraining was purposed to alter maladaptive attributions to increase efforts towards success. Research has been done to determine what success might be achieved by using attribution retraining to increase student motivation. The concern is even greater for the segment of students who feel success is beyond their abilities and are unmotivated to try to accomplish any goals due to repeated experiences of failure. These students are the learning disabled and the helpless, two closely related groups.

The purpose of the present paper is to review the research on motivational theories and to determine what impact attributional retraining can have on student success in schools today with a special emphasis on the learning disabled and helpless students for whom motivation can be a substantial problem. The review of the literature will focus on the link between motivation and helplessness, attribution theory, the practical use of attribution retraining in school, and lastly, what impact can AR have on the learning disabled and helpless students.

**Definition of Terms**

Learned Helplessness, Attribution Theory, Attribution Retraining, Locus of Control,
Review of the Literature

Helplessness

Failure and mistakes are a natural part of the learning process, understood by most students as necessary for success. Fortunately most students experience more success than failure, consequently developing confidence in their ability to master new concepts and to accept challenges. However, for a small number of students their attempts at learning consist of a string of repeated failures. The result of their repeated failures is withering self-confidence and a feeling of complete hopelessness. The hopelessness then manifests as a lack of motivation to try any new challenges resulting in a stagnation of learning for the student due to the perceive belief the outcome to be independent of effort. The phenomenon has been termed, learned helplessness or helplessness (Fowler, & Peterson, 1981).

Review of the literature on learned helplessness reveals the condition has always plagued humankind. However, in the past when the condition was unknown, people with learned helplessness functioned poorly without any knowledge of why, much like a person being poisoned by radon in their home, yet unaware of the reason for their sickness. However, in 1975 Seligman formulated the theory of helplessness. Helplessness is a condition in which a person comes to believe success is beyond his or her ability. The condition does not happen without repeated exposure to failure. As a result of experiencing repeated failure a person comes to believe failure will occur regardless of the amount of effort put forth towards the task. Therefore, as their self-esteem withers effort is withdrawn and motivation ceases (Sideridis, 2003). Because lack of motivation is the main characteristics of helplessness, an examination of the research on
motivation most related to the cause of helplessness will be examined after a review of the history of the theories used to study the topic.

The theory of learned helplessness, as stated, was formulated by a researcher named Seligman, which explained one reason why some people can become unmotivated. Seligman discovered the theory by doing animal experiments and incidentally found dogs exposed to inescapable and unavoidable electric shock failed to learn to escape even when escape was possible. Additional research was done on humans involving the inescapability of noise and insolvable problems as a method to induce helplessness in both physical and cognitive behaviors. Based on Seligman’s early research, researchers determined when people are exposed to uncontrollable events there is a failure to make a cognitive relation between behavior and outcome (Tominey, 1996).

Seligman's first significant step in theorizing helplessness was later reorganized into the reformulated theory of learned helplessness by Abramson. Abramson proposed the theory to resolve some of the perceived flaws of Seligman’s theory. Abramson stated more than just the uncontrollability of an event was necessary for the manifestation of helplessness, but three other factors which are dependent upon a person’s beliefs will also influence whether helplessness develops. He explained the individual personality differences which influence helplessness are whether the person habitually explains a bad event as being caused by conditions which are internal, stable, and global, as opposed to external, unstable, and specific (Hoeksema, Seligman, Girgus 1986).

The study of helplessness is inextricably associated with the study of motivation and an understanding of helplessness cannot be achieved without utilizing the research on motivation. Prior to the research which lead to the theory of helplessness, the theory of attribution was
formulated by Fritz Heider. The theory has provided amazing insight to human behavior and how humans explain events. The theory simply stated people assign either an internal or external attribution to assign causality to the outcome of an even. The development of the concept led to the development of the attribution theory of motivation which is used extensively in educational research. Bernard Weiner was the main psychologist responsible for relating the theory to education and many of the studies which will be cited are based on his work. Simply stated, the theory postulates if a person assigns an internal attribution to an events versus and external attribution the person believes they have control of the outcome and are motivated to achieve the desired results. A deeper look at the theory will be examined in the next chapter. However, extensive research done on the attributions an individual makes in response to success or failure clearly demonstrates the impact psychological factors have on learning. In an article by Kalsner & Rosellini (1992), many questions concerning what internal, or psychological factors, are responsible for success in college students were studied. His research found vast amounts of evidence to prove that maladaptive attribution patterns are generally formed in the early grades and lead to the condition of helplessness. A notable statement found in the article is some students who fall into the pattern are unable to solve problems they previously could.

Locus of control is a psychological term associated and linked with the study of helplessness and motivation used by many of the researchers cited in this paper. Locus is the Latin word of "place" or "location". People with an internal locus of control believe their successes and failures result from their own actions. Fullin & Rosellini (1995) found successful high school athletes were found to have an internal locus of control. However, Fullin and Roselline's research also indicated the difficulty in measuring the concept due to concern a researcher could easily misinterpret what causality the subject was assigning to events. Erdley,
Cain, Loomis, Hines-Dumas, and Dweck, (1991) conducted a study to determine the extent locus of control had in relation to achievement discovering another aspect called motivational orientation determined success in the process. The construct posits the child is not as concerned with the perceived outcome as with their belief in their ability to begin and undertake the task with a reasonable amount of confidence.

Together these concepts have formed the backbone of the research on motivation and helplessness and how the relation to student success. While the research clearly reveals helplessness to exist, to what degree does helplessness impact students? To assess the question the research has taken different directions. Sadly however, no research has been conducted to determine the percentage of students known, or suspected, to have the condition of helplessness. Until now the research has focused mainly on student motivation in general, with little inquiry into subgroups of the student population, or special conditions affecting motivation with the exception the learning disabled, a group vulnerable to helplessness.

As mentioned, no research has been done to determine the number of students with helplessness, what we do know for certain is motivating particular students is an obstacle faced by all teachers. Also, as demonstrated by a 1989 study to determine what led students to optimal performance through motivation, found more than twenty-five percent of students who drop out of school do so due to unresolved academic and motivational problems (Cunniff, 1989). If the problem was large in 1989 the problem has likely gotten worse which makes the topic more relevant than ever for educators to address.
Motivation

Motivational problems are varied and not all are the result of helplessness, a condition which, in most cases, develops over time, however, since unmotivated students can be identified at the earliest grades educational researchers have a special interest in the study of motivation and what factors are involved in increasing student motivation. Motivation is a complex subject which has been the life work of many notable psychologists. These researchers have studied motivation in many different contexts; however the purpose here is to examine the research on motivation which explored the factors most associated with education with a close examination of the learned helpless students.

If helplessness is a condition superseded by an unpredictable, unsupportive, and general negative environment, then we can postulate the opposite environment needs to be present for students to develop the traits necessary to produce motivation. As can be seen by the review of the following articles on motivation, the concept holds to be true. First though, we should begin with a finding which presented itself in much of the literature, motivational researchers have found even children know hard work is necessary for success. A study conducted in early elementary classrooms to determine what factors children attributed to why some students were more motivated to do assign work and what is responsible for success found children to report effort as the main determination of what is required to be successful on a task (Gipps, & Tunstall 1998). The finding is mention here to demonstrate the most cited reason children give when asked what is necessary for success is the most salient behavior the learned helplessness display,
apathy or disengagement from the task. Because of the finding a notable motivational researcher has suggested effort towards a task be included in grading as a means to facilitate motivation (Bartholomew, 2008).

The Gipps and Tunstall study involved forty-nine six and seven year old children in eight 1st and 2nd grade classrooms, each were asked a series of questions to understand their ways of explaining success and failure in relation to mathematics, painting, reading, and getting started with school work in general. The study was a free response situation and the answers were categorized. An additional focus of the study was to determine what role a teacher could have in an effort to contribute to the formation of good attribution habits towards work when the student displayed negative attributions. To reiterate: study concluded the children place an initially high value on the importance of effort and persistence towards being successful which the helplessness do not display.

The aforementioned study allowed the participants to determine themselves the reasons for motivational factors; which are different from most studies wherein the researcher decides on the particular variables to be measured. An interesting connection was discovered while reviewing the literature for this paper in regards to the previously mentioned Gipps and Tunstall study and another study conducted by Green; effort, as given for the main reason for success by the children in the Gipps and Tunstall study also proved to be in accordance with the hypothesis of Green.

Green (1985) was concerned about the quality of research on motivation considering the difficulty inherent in the subject due to the number of overlapping strands with competing variables. This concern was addressed by investigating interrelationships among motivational variables drawn from locus of control theory and from attribution theory. One variable in the Locus of Control category was effort or motivation, while the main variable from the attribution category was the
expectancy of success. The research sample consisted of 423 students in 21 fourth through sixth grade classrooms. Motivational instruments were administered to groups of students in their own classrooms, and achievement data were extracted from existing school files. The results showed students distinguished effort as a factor not related to ability or self-concept. In other words, students clearly demonstrated the necessity of motivation to be successful. There was not as much overall support from the participants of the study stating ability alone account for success on a task.

The research thus far reviewed reveals most students understand effort is required to be successful, but as all educators and parents know, some students are still unmotivated. Teachers have struggled with this problem forever and much theory has been constructed to remedy the problem from providing rewards to administering punishment, neither which have fully solved the problem. While all aspects of motivation continue to be studied in regards to education, a number of educational studies on motivation tend to collect around a number of related factors involving neither rewards nor punishments, but rather psychological support.

This direction of motivational studies can be traced back to the work of Abraham Maslow, one of the most influential theorist and writers on human motivation. Maslow's studies led to the formulation of Maslow's hierarchy of human needs based on two groupings: deficiency needs and growth needs. Within the deficiency needs, each lower need must be met before moving on to the next higher level. As deficiency needs are met more energy can be expended towards growth needs as the individual moves towards a self-actualizing person. Maslow's hierarchy of needs is most commonly represented graphically as a pyramid.
By examining Maslow's hierarchy, motivation in connection with learning and school can be caused by factors associated with all the tiers; however the bottom three tiers are of critical importance in developing basic motivation in students as the research demonstrates. We can easily see how the hierarchy works in regards to schooling by examining physical needs; for example: if a child comes to school without breakfast motivation will not take place until the hunger is sedated. The fact hungry children cannot concentrate is widely recognized and schools provide breakfast to solve the problem. School personnel can usually determine if a child is suffering neglect by observations and will report and suspected abuses whether physiological or psychological; however, determining whether their psychological needs of security and safety are being met is more difficult yet vitally necessary for the child to learn and flourish. If a child's psychological needs are not met at this stage as indicated by the second tier of Maslow's hierarchy conditions such as anxiety or emotional disaffection can result (Minton, 2008). A number of studies examined how the psychological needs of a student can affect motivation have been conducted which will be reviewed.
A study which worked off the premise of developmental psychologists such as Maslow state all individuals have an innate capacity to be intrinsically motivated and conducted research based on the Self-Determination-Theory (STD). Researchers Ryan and Deci conducted a wide ranging investigation into what factors can inhibit motivation versus those which foster motivation. STD is an approach to human motivational and personality which uses traditional empirical methods which study the importance of humans evolved inner resources for personality development. STD investigates people's inherent growth tendencies and innate psychological needs as a basis for their self-motivation and personality integration, as well as for the conditions able to foster those positive processes such as motivation (Ryan & Deci 2000).

The researchers found the natural tendencies toward motivation can be readily disrupted by various non-supportive conditions. Conditions supportive of autonomy and competence reliably facilitated the expression of the human growth tendency of motivation (Ryan & Deci, 2000). The findings of the study are essential by demonstrating if individuals are not allowed to explore their world without gaining a sense of mastery the inherent tendencies to be motivated will be lost. An example from the study was children who had very controlling parents as toddlers and were not allowed any autonomy became passive towards learning about their environment. The necessity of autonomy and competency is a psychological need which must be met for a child to be successful, failure to meet this need will result in helplessness or other undesirable psychological conditions.

As stated earlier, school personnel will report suspected cases of psychological abuse, but what can schools do to foster psychologically security to ensure all students have the necessary mindset to learn has been the work of a number of different researchers. The researchers have found some important psychological factors affecting motivation which schools can address and which if not addressed could lead to lack of motivation and possibly helplessness.

A feeling of belonging is a psychological safety need of Maslow's second tier. The feeling of belonging to the group provides a security necessary for psychological safety; people who experience the feeling of not belonging or fitting in generally do not function as well as people who do. A sense of
belonging within a social environment brings a feeling of security; whether at home, or in ones community. The finding has led to a growing body of emerging literature on student belonging which consistently suggest students who perceive a sense of belongingness in the school setting is related to positive social, psychological, and academic school experience (Nichlos, 2008).

While reviewing the literature on school belongingness Nichlos noticed the majority of studies only examined the variables of relationships at a single point in time and no longitudinal studies had explored belongingness as a predictor of an outcome variable. In other words, a student's sense of belonging was compared with their performance in school in different areas such as motivation, academic success and at risk behaviors at a certain time with no follow up of the student's condition. Nichlos wanted to conduct a longitudinal study of students to learn if students who predicted belonging as a factor of success in school would change their feelings over the course of a school year.

By examining the beliefs of forty-five 6th, 7th and 8th graders new to the school at the beginning of the school year Nicklos hoped to identify what students felt would be necessary for them to be successful at their new school. Students were asked about their feelings on belonging at their previous schools and belonging in a new school. Nichlos then interviewed the students throughout the year to determine if the student's initial feelings stayed the same or if there were changes. By far, most students attributed positive or negative belonging beliefs to the quality of their relationships with their teachers and peers. The students said positive relationships with their teachers were characterized by a sense of fairness and helping and with their peers positive relationships were characterized by feelings of being liked and not getting into fights or were involved in school activities. Clearly the study suggests an inherent need for psychological safety as expressed by the feeling of "fitting in". Most importantly however, the study found students who did establish feelings of belonging showed motivation on academic subjects as well as sound psychological functioning (Nichlos, 2008).

Nelson and Debacker (2008) found students who perceived being valued and respected by classmates were more likely to report adaptive achievement motivation. Reports of good
motivational habits were also related to having a good quality friendship and a best friend who values academics (Nelson & Debacker, 2008). Again, the study confirms the need for psychological safety as stated by Maslow if learning is to occur. Using M. L. Maehr's theory of personal investment, Nelson investigated associations among perceived peer relationships and motivation during a science class. 253 Middle and high school students completed a self-report questionnaire assessing peer classroom climate, motivation related beliefs and the value of a best friend, and social goals. A finding of the study not initially sought discovered students who pursue performance goals and social approval goals do poorly in a negative peer environment. These students are concerned with how others view them and therefore will not show motivation if in a classroom with students who do not feel school work has any value or is not "cool".

The articles reviewed on motivation support the premise of researchers who believe psychological security is necessary for the healthy development of an individual especially in the early years of life. Children who receive the necessary psychological security display an intrinsic motivation to discover their world, whereas the ones deficient in psychological security are withdrawn, apathetic and generally unmotivated. However, the research on motivation reveals motivation is a complex mixture of many variables and therefore each study is limited. Motivation consists of many factors and each study could only focus on a few variables at best. However, there was a sufficient amount of research to conclude for motivation to take place in our schools students must be provided with a supportive school environment which provides for their psychological security. Nonetheless, conditions are not always perfect and a segment of our school population does not receive the psychological security students need, causing a lack of motivation and helplessness which needs to be addressed. The answer to the problem may lie in the theory of attribution.
Attribution Theory

How people interpret and explain their world is a fascinating subject. One early psychologist interested in the subject was Fritz Heider who developed the theory of attribution as a result of his studies into human behavior. This theory was proposed before the theory of helplessness and simply stated people assign either an internal or an external attribution to assign causality to the outcome of an event. The theory of attribution has been widely recognized and has given us enormous insight into human behavior in regards to motivation. Working from these theories Bernard Weiner conducted pioneering research which helped researchers explain human behavior in many ways and has been used extensively by educational researchers to understand student motivation. The theory of attribution has provided a direction for educational research in student motivation by allowing the research to focus on the types of attribution students make towards success and failure, however, motivational research in fraught with inherent difficulties. The difficulty lies in the number of different subject areas and different social factors involved in education. Overall, though research tends to reveal students who attribute success to internal and stable conditions are more likely to face failure without a lasting impact to their self-esteem, whereas students who attribute their failures to external causes are more likely to develop motivational problems. Most studies reviewed found agreement with the theory; however, it should be noted this is the general consensus of this review and not meant to suggest all studies are in complete agreement.

An early study into attribution done soon after the theory of helplessness surfaced
involved an experiment in which two groups of students were given an appropriately challenging problem to solve. One group was delivered the statement "most students are unable to solve the problem." The group was unmotivated to begin the problem and their persistence was of limited duration. Yet, when the other group was told they should have no trouble solving the problem the group was motivated to begin solving the problem. As the experiment continued the students in the first group soon began to stop trying completely (Kramer & Rosellini, 1982). The importance of the study is found in the results which demonstrated when students believed success is unlikely motivation was diminished.

An early researcher of the theory of attribution was Kloosterman who discovered the difficulty of studying student motivation was inherent in the many facets of education. There are many variables concerning education which can cause the results for motivation to differ from subject areas. Kloosterman chose to narrow the subject down to how attributions contribute to motivation in math class. The study involved the attribution students made towards success and failure in the math class and was used as a means of suggesting ways to improve math motivation. The study initial essentially confirmed the theory of attribution with these findings the first finding was students in general do not make attributions on tasks they feel have no significance, including low level problems as well as tests which are not for a grade. Secondly, and most importantly, was the discovery of attribution accumulation; small attributions built over time which have an effect on motivation. For example, if a student has experienced a teacher who for a year gave tests which were irrelevant to the material taught, attributions would accumulate to the situation as being uncontrollable and failure inevitable reducing motivation (Kloosterman, 1984). The study used only relatively good math students and not a wide sample which could put limits on the value of the study to some degree.
A study found to be indicative of the difficulty in studying student's attribution is evident by reviewing the work of Soric. The aim of the study was to investigate the connections between the key aspects two of different theoretical approaches which have been used to gain a greater understanding of student learning and motivation: the attribution theory of Weiner and the self-determination theory of Ryan and Deci. Both of these theories have been described, but to restate: the self-determination theory posits three basic needs: the need for competence, relatedness and autonomy. When these needs are met the individual will show motivation and growth, if these needs are not met motivation and growth will diminish. Weiner's attribution theory of motivation emphasizes peoples explanations of their experience of failure and achievement are caused by their thinking or attributions. Could these two theories have a connection? To find out Soric conducted an investigation which consisted of having 127 seventh grade students assess their own mid-term grades as a success or failure as appropriate assessment rather than using their grades as a measurement because the same grade may be experienced as a failure by a normally successful student and as a success by one who has experienced failure. Two self-report questionnaires were administered to each student to assess the different theories: The Academic Self-Regulation Questionnaire and The Casual Attribution Scale. The study found evidence to support a sight connection between the two theories to an extent by finding intrinsically motivated students who feel autonomous and self-determined rather than controlled by others attributed their success to more internal and controllable cause (Soric 2009). The study reveals even when the self-regulatory styles are used to determine motivation, attribution is still a factor. When the students felt in control success was attributed to themselves. The study failed to find any other significant associations between any other regulatory styles and attributions, but the study shows the attributions students form play a key role in motivation.
The next study once again makes clear how motivational studies focus on specific content areas. However, there is a switch from strictly how attribution effects motivation on academics to how the attributions others make about a student's success effects their emotions and hence, their motivation. Most students have felt the sting of an insulting remark from a peer, or unfortunately a teacher, and just as we know the right comment can have positive lasting effects, we know negative remarks can damage the psyche. But can a poorly received comment affect student motivation? This was the question Hareli and Hess sought to answer in a study about the casual attributions students make when given feedback about their work.

The study used a vignette approach to examine the way students react emotionally to explanations for their success from others in the school environment. In particular, the researcher was interested in examining the conditions under which achievers may experience hurt feelings of anger, guilt and shame due to an implied devaluation of themselves. The researcher hypothesis was constructed from Wiener’s construct of external reasons vs. internal, stable vs. unstable and controllable vs. uncontrollable, predicted if a student perceived a comment to be a result of internal, unstable and uncontrollable causes their reactions would generated negative feelings, which proved to be the case; the further the explanations distances the student from the success, the more hurtful the feelings. Furthermore, discovered was the way the remark was delivered had a substantial impact on the degree of negativity described by the subject (Hareli & Hess 2008). A problem with the study was the use of vignettes which are not considered the best method of study as the subjects are presented with hypothetical situations not reflective of what might actually occur in real life.

The studies reviewed confirm attribution theory does have a strong effect on motivation. Also, from a personal perspective attribution theory can be confirmed by recalling past situations
and how our own attributions had an impact on our success or failure. However considering the complexities of human nature and society, the question arises: does the theory hold water in all situations or are there exceptions to the theory?

To answer the question we can look at a study which directly challenged the assumptions of the founders of the theory. The concept of attributional styles was discussed by Abramson, Seligman, and Teasdale in the reformulated model of learned helplessness and was defined as the way people explain a positive or negative events in their lives. In particular, the cause each person selects to attribute their success or failures to are supposedly the same most all the time as far as the causal dimensions of internality, stability and globality are concerned. According to Abramson when people believe outcomes are more likely or less likely to happen to themselves rather than relevant others, the outcomes are attributed to internal factors. Stability was referred to as a cause seen as enduring and always occurring and not transient and not permanent. Finally, globality is when people perceive the outcome to happen in a wide range of situations (Xenikou, Furham, and McCurry 1997). While examining the research on attribution theory, Xenikou et al. noticed an unintended finding in numerous studies of some people in the studies not displaying the same attributional styles for both negative and positive situations. The finding motivated him to challenge the basic assumptions of the theory, doing research which confirmed the prediction people do not always have the same attributional style for both positive and negative events. The research examined insurance sales people and could be unique to the select group and not students; however his findings do suggest people vary in their attributional styles.

Dresel, Schober and Zieglar examination of the research concluded there was no controversy a functional attribution style has positive effects on both personality and achievement and the formation of helplessness, challenging the theory on the premise of
simplicity because an attribution could contain more than one reason as was previously thought. Furthermore, even if other researchers felt the same, the assessments being used to measure attributional styles did not reflect this assumption. Dresel et al. designed a new method of assessing attributional styles used to study the attributional styles of elementary children. The study provided significant support for the assumption casual attributions are perceived differently by individuals. The study underscores the point made by the prominent researcher Russel not to make the "fundamental attributional research error" of disregarding individual differences (Dresel et al. 2005). In fact, the unique individual differences of people also underscores the complexity of motivation.

Most people know a person whose personality goes against the normal grain; people whose have unique traits such as being overly modest or a person who can endure and persist when faced with hardships beyond the limits of the majority. For instance: many people know a person who is reluctant to accept the fact their actions and behavior alone are responsible for their success due to the modesty of their nature. Also, there are times when people are faced with challenging situations where the cards are stacked against them who persist and eventually succeed. Many of the great stories of our world are about people who preserved in the face of powerful and unfair forces against them and won. The conquering of the American wilderness or the African American's fight for civil rights are a few prime examples just from the history of the United States. These people were faced with obstacles which could be perceived as being beyond their control and yet they did not give up. The research has provided some explanations which can account for these individual differences.

Apparently some people are born to look at life sunny side up, described in psychological terms as having a strong internal locus of control. Research has shown people with a strong
internal locus of control are highly successful and happy in life (Meyerhoff, 2009). The belief is highly supported by reviewing the literature on attribution theory. Most studies conducted with a hypothesis to determine if students with an internal locus of control are more motivated are validated. However, the findings of people with an internal locus of control as being happier and more motivated to achieve can cause a subtle but dangerous stereotype to develop. Sometimes the assumption seems to be made of all failing students to be miserable while their successful peers are happy in all aspects of their lives. Also, there seems to be a common stereotype of successful students as being more responsible in their personal behavior; however, studies have proven the assumption not always to be the case. Attribution research has shown people with an internal locus of control take better care of their health, (Graffeo & Silvestri, L 2006) based on the finding two researchers sought to determine if students who had an internal locus of control as determined by their success in school would also extend to their not using alcohol and tobacco. Graffeo and Silvestri found students who had a high grade point average and participated in extracurricular activities did not show better decisions than the students labeled as having an external locus of control. The study however could be considered flawed due to participant bias. A teacher distributed the surveys and students may not have reported honestly, plus the survey group was exceptionally small with the final set being only 38 students. One other factor associated with the theory of attribution which explains why some people react differently to success and failure than norm is the concept of self-serving bias. A self-serving bias is any cognitive or perceptual process distorted by the need of the individual to maintain and enhance self-esteem (Miller, 1975). Self-serving bias are particularly evident when individuals form attributions about the cause of others personal actions, events, and outcomes. Many students form faulty attributions about their peers which lead to aggressive behavior. For
example: if a student gets bumped in the lunch line the action may be interpreted as personal rather than as an accident. Working from Wiener's work Miller researched how the theory is related to ego protection discovering when a person perceives failure to undermine their self worth they will seek external explanations to blame for the failure. Also, if they perceive another persons action towards them as demeaning they will make attributes which puts the other at fault.

The opposite also occurred; some people often take more credit for certain successes then they are due. A member of a ball team who believes the efforts of the team did not result in the win, but rather their effort alone is engaging in self-serving bias to protect and enhance the ego. The concept has important implications for schools when thinking about how students explain their successes and failures. We often criticize the students for continually blaming other factors for their failures and not taking responsibility. When seen from the need to protect the ego educators can empathize and respond in a manner which will help the student feel less defensive. One manner of responding would be to use various methods of attribution retraining which allow the student to understand there are different ways of thinking about success and failure which do not define them as a person.

**Attribution Retraining**

As we have seen, a person's habitual attribution style can have a substantial impact on their success. Research has shown the attributions people hold are linked to their academic performance, persistence, motivation, and self-efficacy (Honer, & Gaither 2004). In an AR
program, the purpose is to change the individual's perceptions as to why failure occurs, thus, altering the maladaptive attributions with the replacement of more adaptive ones will result in altering the maladaptive behavior (Cheong et al. 2005).

The effectiveness of AR has been studied in a variety of situations, education being perhaps the most widely studied area. Most educational studies have focused on academically failing students; other groups are students at risk due to dangerous or aggressive behavior and the learning disabled and helpless. There seems to be no disagreement among researchers AR works. Attribution retraining programs have proven their worth in clinical settings to reverse maladaptive attribution patterns, but difficult to implement in school settings for various reasons (Dresel et al. 2000). One reason is little research has been done in actual school settings; however, enough research has been done and provides evidence to consider using AR programs in schools to foster success if the proper methods and other conditions can be met.

As we have seen from examining the work of Weiner, attributions for past performance are an important determinant of goal expectancies. If conditions remain the same, then the outcome a person has experienced before will be expected to recur. A success would produce the expectation of future successes and a failure would strengthen the belief there will be subsequent failures. Stable causes like high ability will anticipate higher expectation for success when compared to unstable causes like effort. Students will experience greater pride following successes when outcomes are attributed to internal or controllable causes. On the other hand, if the causes are perceived likely to change or unstable, there may be uncertainty in future outcomes (Cheong et al. 2005). When a person falls into the latter category motivation will cease and helplessness may develop, stalling educational advances. AR as suggested by the literature
stands as a proven method to counteract the condition of failing students who exhibit an external attribution style (Cheong et al. 2005).

The concept of AR was developed relatively soon after Weiner's Motivation Theory of Attribution. Early research on effort attributional feedback, the named used at the time, confirmed the predicted benefits. Dweck identified children who had low expectations for success and whose achievement behaviors deteriorated after failure. He gave the children math problems to solve (some of which were insolvable) to determine further performance decline, the children were assessed and mostly attributed their failure to low ability. The children were then divided into two groups, one, called the success only group, were given problems below their ability. The other group, the AR group, received problems many of which were beyond their abilities, the AR group was told the reason for failure was not trying hard enough; the success only group received no feedback. On a posttest the success only group continued to show performance decline, whereas the AR group showed less decline (Shunk, 2003).

Forsterling reviewed 15 studies about retraining attributions and assessed the results. Out of the 15, nine of the methods examined all led to increased persistence and performance in a variety of areas including reading and math. All of the studies were designed to teach the participants their failures were due to lack of effort, an internal, unstable and controllable attribution (Toland & Boyle 2008).

The research on the use of AR has mostly been to determine if AR can be used to improve the performance of students who indicate a maladaptive attribution pattern. However, AR has also been shown to have beneficial advantages for both high and low achievers. In a study to confirm the finding college students were divided into groups of both high and low achievers. The low achieving students were students determined to have poor cognitive strategies
on evaluative tasks such as summarizing material in one's own words and were at risk for failure. The method was to administer two different types of AR strategies; one employed better cognitive strategies, also known as meta-cognition (understanding one's thinking process), the other strategy was better affective strategies (understanding one's emotions). The researcher hypothesized the affective strategies would benefit the low achievers more whereas the high achievers would benefit more from the cognitive strategies. The final result would be to show both groups can benefit from AR when using different methods which was confirmed (Hall, 2006). The finding has significance for introducing attribution retraining in schools; not only can AR be used to help the helpless, but can be employed in different contexts to increase a school's overall success to meet annual yearly progress.

While the previous study yielded valuable information on AR, the study was conducted in a college and not an actual school setting. In fact, most of the studies of AR have been carried out in college setting and is a major drawback of AR research. Vispoel and Austin (1995) claimed the relevance of AR research was in question because most of the studies focused on college students in hypothetical scenarios or contrived laboratory tasks. In fact, empirical evidence linking attributional response to actual classroom achievement is one of the chief criticisms of attribution theory as well as attribution retraining in regards to education. Despite this complaint, there seems to be no major disagreement concerning whether AR works; the disagreements mainly relate back to the difficulty of studying the theory of attribution itself due to the complexity of the variables. Nevertheless, while researchers acknowledge college experiments add valuable knowledge to the educational community concerning children's thinking, motivation and behavior; a concern was expressed about the divide between research
and practice in education (Honer & Gaither 2006). Taking into account the limited research in schools some studies such as the following were conducted to address the issue.

Seligman, one of the founders of attribution theory, developed a method in 1995 to help children overcome negative events leading to depression by altering their attributional style which provided a model used by other researchers (Toland & Boyle 2008). One such study was a study designed specifically to test whether attribution training which proved to be effective in experimental situations, could also prove to be effective when imbedded in an actual elementary classroom. An important aspect of the study is a regular classroom teacher would be conducting the experiment rather than a researcher. Presumably, if successful the researcher believed the study would prove AR could be successful in the classroom. Basic attribution theory was used to design the experiments which ask the question would helping students increase their attributions of success to effort and decrease their failure attributions to uncontrollable factors lead to greater motivation, and would there be an increase in math scores? Math was the only instruction time the experiment took place. The findings of the study did show some support for using AR in a regular classroom, however the effect was not as strong as predicted (Horner & Gaither 2006). The reasons suspected for this will be discussed in the next chapter. The study has considerable importance by upholding the general premise of AR as derived from the work of Wiener.

As stated, AR has been studied in other situations besides achievement motivation. One such area is how to reduce aggressive behavior in schools. The wealth of empirical evidence connecting attributional bias to inappropriate aggression suggested attribution retraining might successfully reduce childhood aggression by reducing or eliminating biased judgments of a peer’s intent (Hudley, 1998). Also as indicated by Maslow hierarchy of needs, aggression in school will not provide the psychological security necessary for motivation to occur. Research
has shown students who have behavior problems are at a much higher level to develop further problems. Children who are highly aggressive in school settings, males in particular, are more likely than less aggressive children to engage in significantly higher rates of juvenile delinquency as they grow older. Aggressive children are also more likely to experience poor overall school adjustment, peer rejection, mental health problems, and to drop out (Hudley, 1998). Thus, the consequences of high levels of childhood aggression can be very dangerous to both perpetrators and their victims and have overall devastating consequence for student achievement.

To test whether AR could be used to reduce aggression in elementary children Hudley (1995) conducted a longitudinal investigation with 3rd to 6th grade boys. The study examined boys determined to have hostile and aggressive behavior towards their peers. The researcher investigated if AR would reduce their tendency to attribute the actions of their peers in a less defensive manner. The study concluded AR was successful in reducing the number of referrals the students received over the course of 18 months. The researcher noted the success of the study held even greater significance because of the inclusion of students as young as 3rd grade because research has shown students who display serious aggression behavior have passed through a progression of less severe behavior suggesting the importance of early intervention (Hudley, 1995). Hudley went on to conduct further research in this area with successful results.

A study intended to determine if AR could reduce disruptive behavior within a group context in the classroom was conducted in an actual classroom which gives the study considerable significance for the topic under discussion. When group discipline problems remain unresolved, teacher-student relations degenerate into conflicts which open the door to circular process of increasingly disruptive behavior (Lapointe & Legault 2004). By applying AR to two
different classrooms, both with disruptive students, the experiment hoped to show improvement in the AR classroom. The method of the study was to demonstrate to the students and the teacher how each of them responded to one another with many unconstructive attributions such as self-serving bias to protect their ego. Another method was to teach them to understand each person brought prejudices with them into the classroom based on their past which influenced their behavior towards each other, and finally to show how their own behavior could cause the escalation of disturbances. The conclusion of the study was AR was effective in producing a better classroom climate; video observations made after the intervention showed a significant decrease in disruptive behavior (Lapointe & Legault 2004). An interesting finding after the study was both the teacher and the students reported a noticed improvement, and when an incident did occur few students were willing to support the disturbance. Both studies on aggression and AR reported the reason for individual aggressiveness can be influence by multiple complex reasons and individual training may need to be done in such cases.

The majority of the articles examined so far have focused on studies involving the overall effectiveness of AR, which from all indications appears to be very effective. The million dollar question though is: can AR be successfully implemented in schools? Can AR be implemented to increase student motivation and especially in students displaying an extreme lack of motivation such as helplessness?

**Attribution Retraining in Our Schools**

The overall effectiveness of AR has been proven by research. Efforts to change attributional patterns and increase motivational efforts toward achievement have focused on teaching students to attribute academic outcomes to their own effort in success situations or lack
of sufficient effort or strategy variation in failure situations. While the concept almost seems too simplistic, the majority of these studies demonstrated significant increases in expectations for future success, subsequent persistence, and academic performance (Carlyon, 1997). In contrast to what Carlyon stated above, Borkowski, Weyhing, and Carr (1988) found after what appeared to be a simple concept of encouraging students to try harder on a task was really a complex issue and not always practiced in the manner the theory of AR was intended. He further added AR was not easily translated to the classroom and in large groups only found moderate success. Teachers have trouble completing attribution feedback at the high level needed as noted by research, and the attributions may not always be accurate in some cases. Only a few researchers have investigated AR in classroom settings and of the few studies conducted the findings also suggest implementing AR may prove difficult (Horner & Gaither 2004). Robertson et al. (1988) report similar findings stating teachers were not able to complete the study the way the researchers intended, and were only able to deliver a fraction of the intended attribution statements to the targeted children. The lack of positive change was determined to be from the larger class size and less one to one feedback given in the experimental settings. Perhaps due to the nature of these difficulties is the reason no literature was found on the actual implementation of classroom AR programs. While an actual AR program may be difficult to implement in a classroom the research into the effectiveness of AR has provided a number of ways AR can be used in the classroom to help students increase their performance (Robertson, et al. 1988).

Understanding the impact attributions have on behavior leads to a greater self-awareness for all people. The fact increased self-awareness leads to better decision making may be reason enough to introduce the subject to students even if only on a basic level; however, the results of the research show even better reasons exist to use AR in schools. Introducing the concept of
attribution theory, and particularly AR, to students was shown to have a positive impact on academic behavior and persistence when combined with learning strategies; the combination produced good results and is the most beneficial way to use AR (Cheong et al. 2005). The learning strategies involved in the Cheong study were general and content strategies, as well as the cognitive, metacognitive, and resource management strategies. The cognitive strategies involved attending, selecting, test strategies, rehearsing and retrieving. The metacognitive strategies were self-testing, elaboration, organizing and problem solving. The resource management strategies involved time use and study environment while the content strategies related to a special content areas of study. Another study confirmed the recommendation by explaining to students their failures may be due to the strategies used rather than just effort. Attributing the failure to strategies produced sustained motivation, because strategies enable changes in the direction of learning while effort attributions generate changes only in the intensity of the attempt (Soric, 2009).

Again, another study was able to confirm the use of strategies combined with AR in the classroom was effective. A study found effective AR should stress students have the ability to succeed if they applied effort, (all students should be working in the zone of proximal development), because students noticed their high achieving peers seem to have to work less hard and so they assume ability means little effort is required for success. Attributing success to ability can be done through encouraging attributions of strategy use which allows students to take their preconceived notions of ability meaning no effort and change them to knowledge of strategy use for ability effort attributions (Robertson et al. 1988). The acknowledgment of strategy use also serves to protect student’s self-esteem in failure situations by allowing the student to rationalize having made a mistake rather than being unable to do the work.
As previously noted, AR has been studied in a variety of areas. Most of the research done on the actual use of AR to treat students with maladaptive attributions has been in the specific domains of the learning disabled and aggressive students. An AR study designed to help students with social interaction problems including aggression provided the only structured outline of what an AR program should consist of. The study determined the types of attributions made by socially unsuccessful children are essentially the same as those made by academically unsuccessful children (Carlyon, 1997). Encouraged by the evidence stating AR has success in changing attributional patterns leading to academic success, albeit only in college experiments, Carlyon (2004) conducted an extensive review of existing research to construct a model for social attributional change. Carlyon determined the following steps are all common to the most popular training models and provided a good basis for further research into attribution retraining programs: (a) assessment, (b) promotion of skill performance, and (c) skill maintenance and generalization. Carlyon felt findings of the review provided enough evidence of AR effectiveness to help certain individuals more research should be done to develop workable programs.

The research into using AR in schools suggests mixed results. The value of AR to help students, especially struggling or unmotivated students is encouraging. Research shows if combined with strategy instruction the benefits are even greater. However, the research also suggests implementing AR in schools and classroom is difficult for various reasons such as money and lack of personnel because to be successful AR takes a lot of one-on-one time and is best done in small groups settings. The purpose of AR is to restructure maladaptive attribution patterns which many students do not have, additionally, research by Robertson et al. (1988) found many students have an internal attribution pattern which causes academic difficulties, but
only in specific content areas, rather than global attribution towards all subjects, and so to put AR into a classroom would be a waste of resources, especially considering the evidence suggests AR is more effective in small group settings (Horner & Gaither 2004). However, if used in a classroom, accurate assessment of a student's attributions should be done to ensure each student is being retrained in the appropriate manner for their attributional pattern. Ziegler (2005) conducted research which held significance for developing measuring instruments for attribution assessment testing as well as for developing training programs to improve attributional style. The research finding AR likely will not work in the classroom is no reason for discouragement though, for AR was originally constructed not as a basic educational method, but rather as a way of to specifically help people struggling with poor attribution patterns such as the LD and the learned helpless which will be reviewed to determine if AR can be effective to increase the achievement of these students.

The Value of Attribution Retraining for the Learned Helpless and the Learning Disabled

In the chapter covering motivation and helplessness reviewed different ways students can develop helplessness. An important question worthy of research to prevent the development of helplessness is: are there special categories of students who have an increased likelihood of becoming helpless? Research into whether students with learning disabilities are more likely to become helpless than their non learning disabled peers has been done to answer the question. The research shows LD students are at significant disadvantage to become helpless, additionally
the research revealed LD students and the helpless attributional patterns are quite similar. Because of the close association between the two we will review the research on the learning disabled and the helplessness to determine whether AR has the potential to undo the maladaptive attributional pattern of these students.

A study by Sideridis, (2003), found learning disabled students are at an increased risk for developing helplessness as well as being more vulnerable to emotional disorders. The study determined when the outcome of a task was to be judged learning disabled students showed increased signs of helplessness. However, when a learning disabled student’s work was not based on outcome, the student showed more incentive to complete the assignment. The study cleared up much of the prior ambiguity concerning the link between helplessness and the learning disabled. The fact the study was conducted in an actual school setting gives the study further credibility.

A study to determine if there were significant differences between learning disabled and non-learning disable students in the area of helplessness found the numbers to be substantially higher for learning disabled students. An interesting finding of the study was the significant appearance of two sub-groups within the learning disabled category. While helplessness showed up in the greater percentage of learning disabled students, a smaller group demonstrated very adaptive attribution patterns. Due to these findings the researchers recommended further studies to explain the degree of separateness (Nunez et al. 2005).

The existence of helplessness in our schools is well established and documented by research. The first step was the knowledge of helplessness; the second step is the prevention and undoing of helplessness. The research so far reviewed on AR has demonstrated AR has been proven to be effective in helping students overcome motivational problems. The research also
shows some promise for being able to successfully undo helplessness. Further review of the literature will produce more evidence many students who develop helplessness are LD while also showing LD students can benefit from AR, considering the relationship between the two perhaps AR can be used in schools to treat the two groups. This claim is furthered strengthen by the amount of research on the subject, and the research showing AR as being more beneficial in small group setting (Robertson et al. 1988). Furthermore, the fact helplessness, as indicated in the first part of the paper, as being indirectly associated with the development of Attribution Theory and AR used for these students as appropriate. Soric (2009) Stated: attribution retraining is a productive focus for psychological intervention in addressing learning difficulties; changing children's attributions opens up possibilities for wider progress, and may well be a pre-requisite for progress to be made in helping the LD.

Research into both groups has been conducted and there is a strong correlation of maladaptive attributions patterns as Sideridis (2003) reported: LD students display the same patterns as described by Seligman in his theory of helpless. Also, Miranda (1997) reported Children with LD have an attributional profile with the same characteristics as the learned helplessness. They attribute their failures to low ability and their successes to luck; in fact, much of the literatures on AR were studies done on both the LD and helpless together as one group. Therefore, the focus of using AR in schools should be to help both the LD and the helpless undo their maladaptive attributional patterns to increase their motivation and success.

A number of studies have reported students with LD differ from typically achieving students in terms of academic self-concept, attribution for success and failure, and self-efficacy beliefs (Tabassam & Grainger 2002). Studies confirm the reason to be the result of having an external attribution pattern. There is considerable evidence to suggest students with LD tend to
ascribe successes and failures to internally controlled causes less often then do better achieving students who understand the control a person has on the outcome of their actions (Pflaum & Pascrella 1982). Due to the evidence research into the use of AR to reversing their attributional pattern has been conducted.

In a study to determine how much the LD, with and without ADHD, differ from their higher achieving peers in academic self-perceptions found the LD group to hold a lower academic self-perception but in nonacademic areas to hold an equal self-perception, however the ADHD students held a lower self-perception in all areas (Tabassam & Grainger 2002). The researchers in the study also notice the students all held an external Locus of Control in regards to failure. The finding led the researcher to believe exploring AR potential to reverse their attributional patterns would be a worthy effort.

The information presented in the chapter on AR showed much of the research done has been to determine the best methods of administering AR. The specific studies mentioned here are no exception; many of them tested not only just whether AR was an effective treatment for the LD, but also what was the best method of administering AR to the LD. Such was the case in a study to test the effect of teacher response to failure of the LD. Studies examining the interaction between teaching methods and student attributions have demonstrated the LD may be helped by matching the teacher response after student failure to student attribution patterns. The finding was discovered by dividing elementary children into two different groups to determine how teacher feedback affected students. In one group the readers were given feedback explicitly in a small group called the teacher-determination-of-error group (TDE) and in the other group, the self-determination-of-error group (SDE) the readers were told to figure out the reason for their failure themselves. The results indicated by using the Intellectual Achievement Responsibility
Scale (IRA) to assign attribution style, readers who attributed their failure to external conditions such as ability, did better on the posttest when assigned to the TDE group. Readers who attributed their failures to internal causes such effort or strategy did better in SDE group (Plfaum & Pascrella 1982). An interesting fact of the study was the IRA used to profile the LD group is the same construct used to profile the helpless furthering the association of the two groups being treated together. An additional study to determine the impact a teacher response can have to reverse attributional patterns was done in a study which identified elementary students reading far below grade level and displaying helpless characteristics. The children identified for the study had stopped trying to learn to read and showed no motivation to make further attempts. The results of the study proved AR was successful with a group of students who were instructed in how to talk to themselves after a failure by showing an increase in reading persistence. The students were instructed when making a mistake to make statements to try a little harder, or work a little longer (Fowler & Peterson 1981).

Another study which shows the value of AR being used to help the learning disabled found administering reading strategy instruction to students with LD found only moderate improvement, but students who received both strategy instruction and AR show a significantly higher amount of improvement. Another discovery of the study was students who received the combined intervention increased maintenance of the reading strategy and improved generalization (Robertson et al. 1988). Paris and Oka (1989) cited evidence of studies proving AR is better when combined with reading comprehension strategies rather than just AR alone when treating the learning disabled.

Some people hold the opinion to help a child who has an aversive reaction to failure is to provide them with success learning only, believing if the child does not experience any failure
they will not be afraid to try. However, others hold a different opinion believing a child should be taught to cope with failure in a productive manner which will facilitate further efforts. To discover what theory was correct an AR experiment was designed. One group received success only training while the other group received AR concerning failure. After training the success only group showed greater increases in helplessness, while the AR group showed an improved motivation after failure (Dweck, 1975).

The literature suggests strong evidence AR can be use to successfully treat students with both LD and Helpless since they are very similar to one another and in many cases helplessness is just a further manifestation of LD. No research into using AR with students who display these conditions was found to state AR held no value. An area of caution was noted in an experiment to determine if attribution retraining was effective to undo helplessness stressed the need to critically determine if poor performance is indeed due to psychological conditions and not actual ability deficits, the resources of the school or other unrelated factors. If the poor performance is due to conditions other than psychological conditions attribution retraining will have no effect (Martinko & Gardner 1982). The main argument at this point centers on what is the best method of administering AR. Many of the articles stated this should be an area of further study. The evidence of this review suggests AR could have a substantial impact if applied to the LD and helpless.

**Recommendations and Conclusion**

The review of the research on motivational theories to determine what impact attribution retraining can have on increasing student motivation in schools today found mixed. The consensus on the effectiveness of AR to restructure maladaptive attribution patterns is
largely undisputed; however the effectiveness of using AR in the school setting is not as well established. A substantial amount of research has been conducted to determine whether AR can increase student motivation. Despite the amount of AR research, a lack of research done in the actual school setting is a major problem of answering the question of the effectiveness of AR in schools.

The conclusion of most of the clinical experiments found AR to be effective in increasing student motivation. The findings of the studies conducted in an actual school setting produced findings with great significance regarding the effectiveness of using AR in schools. The studies determined while AR could be effective in increasing student motivation, AR was difficult to administer in a classroom for various reasons. Studies have determined AR is most effective in small groups settings which precludes the average classroom for proper administration. Another drawback discovered was the amount of one-on-one feedback required is more than one teacher in a classroom can provide. These findings of the literature suggest AR as an effective classroom method of increasing student motivation will not work. The exception was AR was found to be successful in undoing helplessness and increasing motivation in the helpless and learning disabled.

Attribution retraining was initially formulated with the purpose of restructuring the maladaptive attribution patterns of the learned helpless. Educational research has determined a strong connection of helplessness to exist within the learning disabled. Additional research has determined using AR to help students who are helpless, and the learning disabled who show signs of helplessness, is beneficial. To be most effective the unmotivated students need to be assessed as having maladaptive attribution patterns and the problem not to be the result of other causes. Enough studies confirmed AR effectiveness to help these students to allow other
Researchers to work towards discovering the best methods of administering AR. The best success has been found to use AR while also teaching effective learning strategies. A number of ways to teach the students to be mindful of their thoughts while learning showed good results. One area for future research would be to determine if successful AR can be sustained. No research was found to address the question.

A longitudinal study would be necessary to determine if AR can be sustained over time. When considering an appropriate procedure the fact of the degree of the initial maladaptive behavior needs to be taken into consideration. Students which are profoundly helpless will necessarily need more intensive therapy and ones of a less severe condition. Therefore, and since AR has been proven to be most beneficial with the learning disabled, a proper assessment will need to be done to determine a baseline level of attribution behavior on learning disabled students to provide a control group. However, since the experiment is a longitudinal study a small group is all which will be necessary. This group will be followed after the successful completion of an AR experiment.

Research has revealed AR is most effective when conducted in small groups and when combined with strategy learning instruction, taking this into account the study will consist of selecting between eight and ten middle school learning disabled students who have been assessed with the same degree of helplessness. Furthermore, AR success in reviewing the research has show AR is most successful when performed by a teacher in a classroom, therefore the AR will take place in the middle school resource room and administered by the students special education teacher along with math regular math instruction. The teacher will need to also conduct an informal assessment to determine each students personal attribution style with will help determine if any regression is taking place later. Research conducted by Honer & Gaither (2004)
showed AR when combined with math instruction produced results; therefore a replication the Honer and Gaither procedure will be used as the initial AR / strategy instruction to achieve AR success. After successful completion of the AR/ strategy instruction phase the math class will continue without any AR therapy to assess if the students can sustain their progress. At various periods throughout the school year the teacher will conduct testing to determine in the students have rehabitutated to their original state of helpless or if continued and sustained use of the methods learned in AR are used. The result of such an experiment would provide significant information on whether AR should even be used to help the learning disabled. If the results suggest AR cannot be sustained without continued reinforcement AR may not be the best way to help the helpless achieve success. However, if AR is shown to be sustainable after a successful completion of a program further strengthens and answered the question of AR effectiveness to increase student motivation for the learning disabled.

The vast amounts of research done on all the chapters did discover findings which schools can use to determine which students are at an increased risk of developing helplessness and motivation problems. A sense of psychological and physical security is necessary for students to be successful in school both academically and socially. Research has shown students who feel a sense of not belonging to the school are at an increase risk of being unmotivated and developing other problems. Attribution retraining research has also reveal ways teachers can be more effective at increasing student confidence and hence motivation by listening to each students statements to determine if their attribution style and then respond in a manner which will redirect their thought process in a more productive manner. In fact, many of the methods used in the studies could be used as a guide to help guide students towards better attribution patterns, but only limited basis and not as a structured program intended to produced measured
results.

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