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Impact of Goal and Intentions-Setting on Student Performance in a Classroom

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Abstract

The impact of goal and intentions-setting on the performance of students was evaluated. A cohort of volunteer students ($n=54$) were randomly assigned to three groups. Then, each group was exposed to an appropriate intervention seminar lasting one hour. The Control Group ($n=18$) who used neither goal nor intentions-setting was asked to utilize strategies that they had used in the past that had helped their academic performances. Group 2 ($n=16$) was coached in developing S.M.A.R.T. goals and how to apply them to accomplish the objectives of their current semester's course. Group 3 ($n=20$) was coached in developing S.M.A.R.T. goals in combination with an intentions action plan and how to apply them to accomplish the objectives of their current semester's course. Students' mean final grades were the dependent variable used in the statistical analysis to evaluate each group's performance. The between-groups one-way ANOVA showed that the performance of groups was statistically significantly different from one another. The mean final grade of Group 3 was significantly higher than that of Group 2. There was no statistical difference in mean final grades between Groups 2 and Control. This research suggests that combining S.M.A.R.T. goals with an intentions action plan helps students perform better in their courses. Although setting goals is a first step in achieving academic success, without creating intent to reinforce those goals, such success is not easily obtained.

MONTCLAIR STATE UNIVERSITY

Impact of Goal and Intentions-Setting on Student Performance in a Classroom

by

David Dariani

A Master's Thesis Submitted to the Faculty of

Montclair State University

In Partial Fulfillment of the Requirements

For the Degree of

Master of Arts in Industrial & Organizational Psychology

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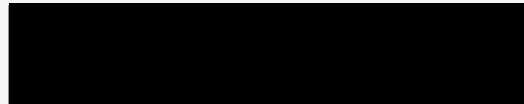
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IMPACT OF GOAL AND INTENTIONS-SETTING ON

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DAVID DARIANI

Montclair State University

Montclair, New Jersey

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Introduction

Although much research is available about goal setting to date (Cooper & Locke, 2000; Eccles & Wigfield, 2002), there has been little work on successful goal setting processes to fully aid students in their academic learning. Even though researchers have long studied the influence of goal setting on performance (Kleingeld, van Mierlo, & Arends, 2011; Mento, Steel, & Karren, 1984; Sagie, 1996; Smith, 2003), there has been less implementation of that research into academic settings to enhance student performance and learning. The ability for students to successfully achieve their goals may be enhanced by combining them with an intentions action plan (von Suchodoletz & Achtziger, 2011). The concept of goal setting used in combination with an intentions action plan in a classroom setting is important to research since students encounter many types (e.g., academic, social, relationship) of goal setting in their classroom experiences (Serra de Lemos & Goncalves, 2004). Specifically in classroom settings, concrete evidence in this area could impact the way that students set goals and achieve them. Too often goals are set poorly with no plans of action to reinforce their achievement. However, the ability of students to successfully achieve their goals may be enhanced by combining them with implementation intentions, also known as a plan of action (Miles & Proctor, 2008).

In order to grasp how to use goals in tandem with intentions as an important tool for greater performance achievement, it is important to create a thorough understanding of what goals, goal setting, and implementation intentions action planning are (Ajzen, 1985; Hinsz, 1995; Smith, Locke, & Barry, 1990). A literature review was undertaken to achieve this.

Goals Setting

Goals may be understood as a conceptualized desired endpoint that is created within the human psyche, and is achieved through the exertion of effort on behalf of the goal setter (Moskowitz & Grant, 2009). It fosters motivation and can affect behaviors related to the attainment of that conceptualization. People consciously and subconsciously set goals in all areas of life. There are really no limits on the potential goals people may set and achieve, as long as they plan their process intelligently (White, Kaighobadi, & Wharton, 1994). Goals provide the goal-setter with purpose and direction, and offer an endpoint that serves as the basis for the organization and evaluation of overall success within their goal procedures (Koestner, Lekes, Powers, & Chicoine, 2002). It's important for goal setters to recognize the difference between a goal and something that might just be a wish on their wish-list. Unlike making a wish, creating goals require that one follow certain steps (Brandstatter, Lengfelder, & Gollwitzer, 2001). These steps serve as a concrete structure and an organizational foundation of the goal process, and maximize people's understanding and organization of their goal(s) along with what it takes to achieve them. These steps are as follows: i) clearly define the goal and intentions, ii) outline the steps/actions/behaviors needed to achieve it, iii) consider possible obstacles and brainstorm ideas for dealing with those obstacles successfully, and iv) organize and set deadlines (Brandstatter, Lengfelder, & Gollwitzer, 2001).

Research indicates that the most successful goals are those that are specific, because setting specific goals aids the setter by giving him/her a focus that directs behavior (Bryan & Locke, 1967; Locke, Shaw, Saari, & Latham, 1981; Mathews, 1997).

It allows goal setters to have a behavioral basis for evaluation, and a reference to compare their plans, actions, and behaviors against their goals. Detailed specification of goals gives setters a greater advantage towards the achievement of those goals (Locke, Cartledge, & Knerr, 1970). People setting specific goals gain clarity to what represents the goal state itself. People who combine their goal clarity with a specific understanding of: i) who is involved, ii) what they want to achieve, iii) where will it take place, iv) when will it happen, v) which constraints may block their achievements, and vi) why do they want to achieve this goal, see what it takes to attain their desired endpoint (Arvey, Dewhirst, & Boling, 1976). It is the presence of this combination of goal clarity and specific goal understanding that seems to give goal setters their greatest chance of achievement.

In general, goal setting may be understood as a process of identifying an outcome, planning how to achieve that outcome, and working towards the achievement of that outcome. Goal setting is a dynamic process that allows the implementer to understand the elements of themselves and their goals, which contribute to the achievement of those goals (Bipp, Tanja, & Kleingeld, 2011). The study of goal setting was refined and published in 1990 by psychologists Locke and Latham as Goal Setting Theory. To help people further understand the structure and organization of goal setting (Drago, 1997), Locke and Latham (2007) developed five moderators which indicate the success of goal setting. They include: i) commitment, ii) feedback, iii) task complexity, iv) clarity, and v) challenge. These five moderators are considered essential elements in a person's chances of attaining success in goal setting instances. The understanding of the Locke and Latham indicators is of great importance within the study of academic goal setting.

Commitment (Locke & Latham, 2007) ensures that a person sees a goal through to its end which allows the final achievement to remain an endpoint. Commitment mostly ensures that goals remain realistic and attainable, both themselves being essential elements of goals. A good way to raise commitment levels within academic goal setting is to encourage people's participation in the goal defining and setting process. Helping people to find out what their goals and intentions are, and aiding them to understand the five indicators, are potential ways to increase chances of successful goal achievement (Klein, Wesson, Hollenbeck, & Alge, 1999). A strong commitment creates a motivation and focal point for efforts that produce a good foundation for a goal to grow and flourish.

Feedback (Locke & Latham, 2007) allows for the process, in this case academic goal achievement, to be monitored and refined as necessary by either the person or their facilitator. It helps the person understand what they have got to accomplish, while clarifying what's blocking them, and how to refine their behavior to avoid those troubles in order to remain on track towards achievement (Mesch, Farh, & Podsakoff, 1994). These rudiments of feedback make it an essential tool in a person's goal achievement tool box.

Task complexity (Locke & Latham, 2007) highlights the fact that goals can be complex, and should be broken down into more manageable elements. Breaking goals of all levels of complexity down into sub-goals is important because it allows goals to remain mapped out. It also allows for people to track, organize, and better-manage their goal(s); while the attainment of smaller sub-goals provide an ongoing sense of achievement that can act as reinforcement to the person's progression (Campbell, 1988).

Clarity and challenge (Locke & Latham, 2007) both serve people's achievement processes well. Clarity allows all aspects of a goal to be clearly understood. These include: i) an awareness of the goal, ii) what represents the state of achievement, iii) the steps it will take to reach that state of achievement, iv) the person's intentions of how they will achieve, and v) clearly stated timeline which should all be outlined in order to give the person the most clarity in their goal pursuit(s). The challenge indicator simply means that a person's goals should be challenging in reference to their knowledge, skills and abilities. Goals should be difficult, but remain both realistic and attainable. Keeping goals attainable is important because if people perceive a goal as unattainable or very complex for the circumstance or their ability, they might lose the motivation needed to achieve those goals (Ivancevich & McMahon, 1977). All these indicators in combination provide a transparency of the goal, along with what it will take to achieve it. Utilizing these indicator tools will definitely give people an edge when they attempt to achieve academic goals.

Role of Implementation Intentions

Although goal setting is the first and key step in achieving academic successes, without creating intent to further reinforce those goals such success is not easily achieved. Along with goal setting, successful goal achievement is facilitated by a second act of willing that furnishes the goal with an if-then plan specifying when, where, and how the person will instigate responses that promote goal realization. These plans are termed implementation intentions (Gollwitzer, 1993; Gollwitzer & Moskowitz, 1996; Gollwitzer, 1999). In order to increase one's chances of achieving a goal, it becomes essential to identify and clarify one's intentions with a plan of action (Sullivan &

Rothman, 2008). The main purpose of this plan is to serve as an organizational manager for people's behaviors. Development of an effective intentions plan requires the goal setter to carefully analyze and articulate certain elements of their goals and their intent to achieve them. This analysis involves: i) understanding the purpose of the goal, ii) clarifying who will do the work, iii) identifying what resources are required and available, iv) deciding on the timeline, and v) developing measurement benchmarks. With a basic assumption being that the strength of a person's intentions determines respective accomplishments (Austin & Vancouver, 1991; Gollwitzer & Moskowitz, 1996; Oettingen & Gollwitzer, 2010; Sheeran, 2005), intentions assist people in stating exactly what they have to do in terms of behavioral actions in order to achieve a specific goal. It lets people know exactly what they need, intend, and are willing to do to achieve their goals. This knowledge of intentions is very advantageous to goal setters' successes, because it reveals exactly what it will take for them to succeed (Harackiewicz, Barron, Tauer, & Elliot, 2002). Creating implementation intentions could also be instrumental in showing increases in motivation (Gollwitzer & Brandstatter, 1997; Rees, Gollwitzer, & Bargh, 1999). In a study done at the University of Chicago (Koo & Fishbach, 2010), researchers showed that people who focused on their accomplishments and remaining tasks, demonstrated increased levels of satisfaction and motivation, both of which allow people to move along to higher levels of achievement. This research reinforces the concept that goals, goal-setting, and implementation intentions are interrelated. This combination shows the goal process in its totality, and serves as a blueprint of both what has been accomplished, and what demand the attention of their strategic focus. When linked directly to goal attainment, findings in 94 independent studies showed that

implementation intentions had a positive effect of medium-to-large magnitude (d=.65) on goal attainment (Gollwitzer & Sheeran, 2006). The setting of an outcome is a key act of willing that promotes goal attainment (Ajzen, 1991; Atkinson, 1957; Bandura, 1991; Carver & Scheier, 1998; Gollwitzer, 1990; Locke & Latham, 1990). When that act of willing is combined with intentions, it can increase a person's chances of success in achieving their desired goal(s). These studies indicate a significant effect on goal attainment resulting from the utility of implementation intentions.

Self Determination Theory

With an understanding of what goals, goal-setting, and implementation intentions are, it is critical to understand how important it is to use these elements collectively. To master and exploit the benefits of the combination of goals with intentions; it is valuable to highlight what goals do for intentions and what intentions do for goals. To elucidate the benefits of combining goals and intentions, it is notable to mention self-determination-theory (SDT). SDT focuses on the degree to which an individual's behavior is self-motivated and self-determined which leads to greater motivation (Deci & Ryan, 2002). With this knowledge we can see that SDT aids in the motivation and setting of behaviors for people in goal pursuits. It can be postulated that SDT indicates that goals create the need and opportunity for intentions. Goals motivate our actions and can determine what behaviors are needed to achieve one's goals. Intentions on the other hand, provide a guideline for achieving goals, a map for behavioral action, and can keep people motivated and on-task to achieving goals (Koestner, 2008). The type of relationship that goals have with intentions and vice-versa make them ideal candidates for use in tandem (Koestner, Lekes, Powers, & Chicone, 2002). Goals and intentions both

grow from each other, and though goals must be present in order to determine intentions, intentions still have great effects on goals. To exploit the combination of these two important elements together, people must define and understand their goals, then back those goals up with defined intentions in order to gain further clarity of the goal state along with what it takes to achieve it. The simple steps of creating goals and combining them with intentions is a benefit that often goes overlooked by people which can help them to achieve all types of goals.

Previous research (Brandstatter, Lengfelder, & Gollwitzer, 2001; Harackiewicz, Barron, Tauer, & Elliot, 2002) have mainly focused on either implementation intentions in general or using students' achievement goals, ability, and high school performance as predictors of future performance. The current research attempted to provide students with proper tools for goal setting as well as goal setting in combination with an intentions action plan and investigated how these tools impacted their academic performances.

Current Research

Prior research on goal setting has primarily dealt with laboratory-based activities or mainly focused on task performances, with less emphasis on the academic achievements of students in their classroom environments. Given the impact that research on the influence of combining goal setting with an intentions plan could have on students' classroom accomplishments, and with students encountering many types of goal setting instances during their education; it is important to investigate the influence that combining goal setting with an intentions action plan could have on students' performances.

To evaluate the impact of combining an intentions action plan with goals on student performance in an academic setting the following hypotheses were tested:

Hypothesis 1: Students who just set goals will perform better and will get better final grades than students who do not set goals.

Hypothesis 2: Students who set goals in combination with an intentions action plan will perform better and get better final grades than students who just set goals and/or students who do not set goals.

Methods

Participants

Participants in this research were drawn from students from 2 sections of an upper level undergraduate psychology course at Montclair State University. There were a total of 79 students in these two sections, with fifty females and twenty nine males. A total of fifty-four students (forty females and fourteen males) volunteered to participate in the research for a participation rate of 68%.

Participants were randomly assigned to one of the three following groups: the Control Group (n=18; twelve females and 6 males), Group 2 (n=16; ten females and six males), Group 3 (n=20; eighteen females and two males).

As required by the IRB, each volunteer student was provided with a Consent Form to read and sign prior to participating in the research.

Materials

Upon arrival to their intervention seminar students' received a packet of information specifically tailored for their group.

For the Control Group, the packet contained the following:

1. The Control Group Intervention Seminar Handout – This provided an outline of the material that would be covered during their seminar.

2. Things You Should and Should Not Do – This allowed participants to come up with behaviors, good and bad, from their past experiences that they felt helped or hindered their academic achievements and were asked to apply them towards the objectives of their current semester's class.

3. Successful and Unsuccessful Strategies – This allowed participants to brainstorm strategies, successful and unsuccessful, based on their past experiences that they should apply or avoid towards the objectives of their current semester's class.

4. Manipulation Check Questionnaire – This allowed participants to show that they had comprehended the materials they were exposed to throughout the interventions; as well as, allowed the researcher to see that participants understood and retained the materials presented.

These materials are provided as Appendix A.

For Group 2, the packet contained the following:

1. Group 2 Intervention Seminar Handout – This provided an outline of the material that would be covered during their seminar.

2. The Action Planning Chart – This allowed participants to visualize their goal process, as well as, create a written plan of action highlighting important elements of goal and intentions setting.

3. Manipulation Check Questionnaire – This allowed participants to show that they had comprehended the materials they were exposed to

throughout the interventions; as well as, allowed the researcher to see

that participants understood and retained the materials presented.

These materials are provided as Appendix B.

For Group 3, the packet contained the following:

1. Group 3 Intervention Seminar Handout – This provided an outline of the

   material that would be covered during their seminar.

2. The Action Planning Chart – This allowed participants to visualize their

   goal process, as well as, create a written plan of action highlighting

   important elements of goal and intentions setting.

3. Manipulation Check Questionnaire – This allowed participants to show

   that they had comprehended the materials they were exposed to

   throughout the interventions; as well as, allowed the researcher to see that

   participants understood and retained the materials presented.

These materials are provided as Appendix C.

Procedure

At the beginning of the semester, I requested permission to enter the class before

any tests. Using a script approved by the Montclair State University's IRB, I provided

students with an overview of my research study and suggested that their participation

might help them improve their grades. . As part of my overview I stated, "I am doing

research on simple ways to help students get better grades in school." In addition I also

told the students that, "data from this research might aid students in the future to perform

at their highest potential." I provided a sign-up sheet with several timeslots and

requested that those who wish to participate in my research sign up for a timeslot most

convenient for them, and to provide me with their contact information. Immediately after students had signed-up for a time slot, I randomly assigned them to one of three intervention groups (The Control Group - using neither goal nor intentions-setting, Group 2 - using goal-setting only, and Group 3 - using goal-setting combined with an intentions action plan). The professor was blind to who agreed to participate in the research and who did not. In addition, the professor was blind to which student participated in which group.

When volunteer students came to their intervention seminar, the following procedure was used:

1. I introduced myself - David Dariani, a graduate student within the Industrial and Organizational Psychology program at Montclair State University (MSU). I then told them how I graduated with a four-year Bachelor's Degree from MSU in the undergraduate Psychology program. Explained that if they have any questions, comments, or concerns to please feel free to raise their hands so that I can address them accordingly.

2. Introduced my research study - A master's thesis research to complete the graduate program in Industrial and Organizational Psychology at MSU. I explained to them how my current research is about how students use goals to navigate through academia. I told them that the specific purpose of the intervention seminar is to help them to do better in this semester's class; however, I made it clear that the information is not limited to this area and may be utilized in many areas of their lives.

3. Obtained informed consent - I handed out the consent form, went over it with the participants and addressed any questions they had, and asked them to sign and date the form. Signed consent forms were then collected.

4. Implemented the intervention seminars - These seminars provided participants in each group with insight based upon specific knowledge that enhanced their understandings of the topics covered in their groups. Each seminar gave participants a higher awareness of the information that was developed to explicitly cater towards providing them with a greater understanding of their group's topics. The greater understanding by participants of their group's topics from the interventions should have aided them in developmentally enhancing their skills in: general academic planning strategies for success, academic goal setting, as well as, academic goal setting combined with an intentions action plan.

The Control Group was given a seminar that covered the general overview and objectives of the research and each member was asked to join a brainstorming session and share strategies, behaviors, and techniques that they had used in their past academic lives that had either helped (successful strategies), or hindered (unsuccessful strategies) their academic performances. Each member was given templates and was instructed to take notes of various strategies on the templates, and use them to accomplish the objectives of their current semester's course.

Group 2 was given a seminar that also covered the general overview and objectives of the research, as well as, goal setting and their usefulness and value in successfully accomplishing the objectives of their semester's course.

Specifically, they were introduced to setting S.M.A.R.T. goals that are specific, measureable, attainable, realistic, and time bound. The following brief explanation of various attributes of S.M.A.R.T. goals was provided to the participants:

> - Specific: goals should clearly indicate what you want to accomplish.

> - Measureable: goals should have criteria for measuring progress, so that you can see change occur. Seeing progress encourages you to continue efforts required in achieving goals.

> - Attainable: goals should be within your capabilities and achievable, otherwise you will probably not commit the efforts to achieving them.

> - Realistic: goals should be realistically achievable based on your skill sets and capabilities.

> - Time bound: goals should have a set timeframe in order to give you a clear deadline to work towards.

The group was then coached in developing goals and shown, step by step by way of a volunteer example, how to turn those goals into S.M.A.R.T. goals. They were encouraged to develop an action plan for achieving their S.M.A.R.T. goal without actually being coached in the development of such an action plan, and recommended to use these to accomplish the objectives of their current semester's course.

Group 3 was given a seminar that also covered the general overview and objectives of the research, as well as, goal setting and developing a detailed intentions plan for achieving those goals, and their usefulness and value in

successfully accomplishing the objectives of their current semester's course.
They were also given a template for developing goals and an intentions plan
which included: understanding the purpose of the goal, clarifying who will do the
work, identifying what resources are required and available, deciding on the
timeline and developing measurement benchmarks. Similar to Group 2, they
were introduced to setting S.M.A.R.T. goals that are specific, measureable,
attainable, realistic, and time bound; as well as, developing an intentions plan for
their S.M.A.R.T. goals that included purpose, responsibilities, resource allocation
and requirements, measurement benchmarks, and specific timelines. The group
was coached, step by step by way of volunteer examples, in developing their
S.M.A.R.T. goals in combination with a detailed intentions plan for achieving
their S.M.A.R.T. goals, and applying this information towards the
accomplishment of the objectives of their current semester's course.

5. Administered manipulation check questionnaire to each group to serve as a
   manipulation check and ensure that the majority of participants had
   understood the material covered during the intervention seminar.

6. Concluded the intervention seminar and wrapped-up by thanking the
   volunteer students for their participation in my research study.

7. Collected the data in the form of final classroom grades from the professor at
   the end of semester; and used them in the statistical analysis.

Results

The results from the manipulation check questionnaire indicated that the majority
of the participants had understood the material covered during the intervention seminars.

All participants in the Control Group, 94% of participants in Group 2, and 80% of participants in Group 3 responded correctly to the questions in the manipulation check.

The mean final grade of students in the course in each group was the dependent variable used in the statistical analysis. Descriptive statistics for the mean final grades are provided in Table 1.

Table 1

Descriptive Statistics for the Mean Final Grades

Group	n	Minimum	Maximum	Mean	Standard Deviation
Control	18	1.0	4.0	3.39	0.85
2	16	0.0	4.0	2.94	1.12
3	20	3.0	4.0	3.70	0.47
Total	54	0.0	4.0	3.37	0.88

The between-groups one-way analysis of variance (ANOVA) technique was used to analyze the data from this research, with the results summarized in Table 2.

Table 2

One-way Analysis of Variance

	Sum of Squares	df	Mean Square	F	p
Between Groups	5.18	2	2.59	3.73*	0.03
Within Groups	35.42	51	0.69		

*$p < .05$

This analysis showed that the performance of groups were statistically significantly different from one another, $F(2, 51) = 3.73$, $p = .03$. Post hoc analysis using the Tukey HSD test, see Table 3, indicated that the mean final grade of Group 3 ($M = 3.70$, $SD = .47$) was significantly higher than the mean final grade of Group 2 ($M = 2.94$, $SD = 1.12$), $p = .02$; and that there was no significant difference between mean final grades of Group 3 and the Control Group ($M = 3.39$, $SD = .85$), $p = .49$. The mean final grade of Group 2 ($M = 2.94$, $SD = 1.12$) was not significantly different than the mean final grade of the Control Group ($M = 3.39$, $SD = .85$), $p = .27$.

Table 3

Post Hoc Analysis of Mean Final Grades

	(I) Group	(J) Group	Mean Difference (I-J)	p
Tukey HSD	Control	2	0.45	0.27
		3	-0.31	0.49
	2	Control	-0.45	0.27
		3	-0.76*	0.02
	3	Control	0.31	0.49
		2	0.76*	0.02
Fisher LSD	Control	2	0.45	0.12
		3	-0.31	0.26
	2	Control	-0.45	0.12
		3	-0.76*	0.01
	3	Control	0.31	0.26
		2	0.76*	0.01

*$p < .05$

Similarly, post hoc analysis using the Fisher LSD test indicated that the mean final grade of Group 3 (M = 3.70, SD = .47) was significantly higher than the mean final grade of Group 2 (M = 2.94, SD = 1.12), p = .01; and that there was no significant difference between mean final grades of Group 3 and the Control Group (M = 3.39, SD = .85), p = .26. There was no significant difference between the mean final grade of Group 2 (M = 2.94, SD = 1.12) and the mean final grade of the Control Group (M = 3.39, SD =.85), p = .12.

Contrary to the hypotheses, Group 2 had the lowest mean final grade of the three groups. To further understand why this occurred, Group 2 was considered in more detail.

First, Group 2 had the fewest participants. It also had the broadest range of grades as indicated by the largest standard deviation (SD=1.12), with an outlier who got a final grade of F which resulted in a lower mean final grade. In fact, elimination of the outlier from Group 2 would have resulted in the following mean final grade (M=3.14). Second, although students in Group 2 were coached in creating S.M.A.R.T. goals out of their general goals, there is no assurance that these students actually followed my recommendation in converting their general goals into S.M.A.R.T. goals as it relates to the objectives of their current semester's course.

Discussion

The impact of goal and intentions setting on student performances was researched by implementing three interventions upon volunteer students who were randomly assigned to one of three groups (the Control Group - using neither goal nor intentions-setting, Group 2 - using goal-setting only, and Group 3 - using goal-setting combined

with an intentions action plan). The mean final grades of participants in each group was the dependent variable used in our statistical analysis.

Prior research has shown that creating intent to reinforce goals has positive impacts on the achievement of those goals. Along with goal setting, past research suggests that utilizing intentions to reinforce goals may positively impact student performances. However, prior research did not specifically apply this concept to students' performances in an academic setting. In the current research, the researcher attempted to apply these concepts towards academic achievements of students. Similar to prior research, the results from the current study indicate that creating goals in combination with an intentions action plan had significant impact on students' performances in their classrooms. Results also indicate, contrary to intuitive expectations, that just creating goals without the reinforcement of an implementation intentions action plan is not enough to significantly impact performance in a positive manner. This implies that there are some aspects within the process of creating an intentions action plan that positively impact student performances. With this in mind, I would like to expand on some of the elements of creating an intentions action plan, and explore how these elements can influence student performances (Gollwitzer, 1993; Gollwitzer, 1996; Gollwitzer, 1999; Sullivan & Rothman, 2008; Harackiewicz, Barron, Tauer, & Elliot, 2002).

The goal setting and intentions setting literature was used to develop the seminars in this study. Creation of an intentions action plan starts with giving a purpose for each goal, which further encourages students to make their goals more specific and clearly state what is to be accomplished (Gollwitzer & Brandstatter, 1997; Rees, Gollwitzer, &

Bargh, 1999). The combination of more specificity and clarity of goals lets students know more clearly what they need, intend, and are willing to do to achieve goals. The intentions action plan acts as an organizational manager for students' behavior and helps them to be more focused and direct their behavior towards achievement of goals. Research has shown that the most successfully achieved goals are those that are more specific and clearly stated (Gollwitzer, 2001; Bryan & Locke, 1967; Locke, Shaw, Saari, & Latham, 1981; Mathews, 1997; Locke, 1970; Arvey, Dewhirst, & Boling, 1976). By creating an intentions action plan, Group 3 made their goals more specific with clearly stated purposes which could be the reason why they did better in the course and got a higher mean final grade than the Control Group and Group 2.

The next element in creating an intentions action plan is preparing specific measurement benchmarks for monitoring progress (Sullivan & Rothman, 2008). This requires students to break complex goals into discrete sub-goals with clear end points that are measurable or observable. Having benchmarks for monitoring progress keeps students on track by showing them what they've accomplished and what remains to be done. Observing progress towards final goals provides students with an ongoing sense of satisfaction which in turn motivates students to continue their efforts towards the completion of goals.

The next element in creating an intentions action plan requires students to assess their goals to ensure that they are within their capabilities and achievable (Sullivan & Rothman, 2008). Often, students set goals that are not realistically within their capabilities and skill sets, and hence these goals may appear not achievable. This

becomes a de-motivating factor and prevents students from commitment of efforts required for achieving their goals.

The final element in creating an intentions action plan requires students to set deadlines for achieving their goals (Sullivan & Rothman, 2008). Having deadlines requires students to organize their actions and behaviors, and provides a sense of urgency to focus on the completion of goals, which has been shown to have a positive impact on performance.

The process of making an intentions action plan requires students to spend an extra effort to include various elements of indicators that effect performance (commitment, feedback, task complexity, clarity, and challenge) into their goals. Research has shown that the incorporation of these indicators into student goals has a positive effect on their performances (Locke & Latham, 2007). Levels of commitment may be raised in students who reinforce their goals with an intentions action plan in comparison to students who set goals only, because the first group of students spends more time developing their behavioral intent and action agendas. This extra time spent attending to the creation of an intentions action plan creates more commitment towards the completion of that plan, because of students' extra participation in the goal defining/planning process. This increases motivation and keeps students on track towards goal completion.

In the current research students in Group 3 were coached on developing an intentions action plan, and were requested that they develop intentions to reinforce their goals. This enabled Group 3 to incorporate the various elements just discussed into their goals, and most likely is the reason why Group 3 performed better and got a higher mean

final grade than the Control Group and Group 2. In contrast, the Control Group and Group 2 did not develop intentions, which is probably why they did not perform as well as Group 3 in their course.

It is important to note that the current research utilized published literature on goals, goal setting, and implementation intentions; and combined them to develop a utilitarian application that provided a practical tool for students to improve their academic achievement.

Strengths and Weaknesses

As a researcher, it is important to identify, understand, and explore strengths and weaknesses of the study's design. Upon post-examination of the current study, I have recognized that, like most studies, mine has strengths and weaknesses as well.

One of the strengths of the current design was that the participants came from a well respected university and were a good representation of average college classroom students across universities in America. This allows the results to be generalized and be applicable to the student population across America. A second strength in the current study is that it employed an intervention-style approach which provides for more robust results than survey approaches. One reason that this approach is a strong producer of change is that it allows people to see and build their understanding of the topic at hand in an interactive way. A second reason that an intervention technique is effective is that it gets students involved in the research and provides them with proper tools to set goals and develop action plans necessary to achieve their goals. A third strength of the current research is that it used a three-arm design, which included a control arm to assess the

impact of goals and goals in combination with an intentions plan on students performance in a classroom.

As important as outlining the strengths of a study's design, is to outline its weaknesses. This allows future researchers of this topic to avoid these shortcomings in their study designs. In this study, because the students were told that participating in the intervention might help them perform better in the course, even the control condition participants were introduced to strategies that could help them improve their grades (although these strategies did not include goals setting or intention setting). This might account for the unexpected results. Another weakness of the current study was that not all variables that may have had an impact on performance were accounted for. Information regarding gender and age distribution, previous academic record, grade point averages, SAT scores and IQ of participants were not collected and could have impacted the results. A third weakness of the current study design was that even though the manipulation check questionnaire showed that the majority of students comprehended what they had learned from the interventions, there was no assurance that the participants did indeed implement the recommendations of the researcher and developed goals and intentions and applied them towards the objectives of their current semester's course.

Suggestions for Future Research

Future research on this topic should take these strengths and weaknesses into account and design studies that would account for all variables that may have an impact on students' performances. They should also increase the sample size and distribute them equally amongst the groups, and collect information to provide the assurance that

participants followed the researcher's recommendations regarding development of a

goals and intentions action plan.

Practical Applications of the Current Research

The current research shows students how to make what they dream for themselves

a reality; and specifically teaches them the tools that it takes to do this in order to be

successful, accomplished and happy individuals.

This research suggests that faculty include in their teaching curriculum, at the

beginning of each semester course, an education on S.M.A.R.T. goal setting techniques in

combination with a detailed intentions action plan for achieving the objectives of their

course syllabus.

To do this, universities need to institute a training program for their faculty on

goals and intentions action plan setting, so that they would be well equipped with this

knowledge and be able to coach their students on skills for goals and intentions action

plan setting in order for students to successfully accomplish the expectations and

objectives of their courses.

The author also hopes that universities, professors and students will take the time

to implement his recommendation regarding S.M.A.R.T. goal setting in combination with

a detailed intentions action plan as a successful strategy for doing well in academic

pursuits. The skills acquired for developing goals and intentions action planning are not

only limited to academic pursuits; for in an economy driven by the need to earn,

academic credentials become essential in aiding people attain their career aspirations.

Conclusion

The current research showed that the performance of students who set goals in combination with an intentions action plan, students who just set goals only, and students who did not set goals were statistically significantly different from one another. The results indicated that students who set goals in combination with an intentions action plan performed statistically significantly better than students who just set goals. The results also indicated, contrary to intuitive expectations, that just setting goals does not necessarily help students perform better in their courses. This implies that although setting goals is a first and an important step in achieving success in a classroom, without a detailed intentions action plan, such success is not easily obtained. This research provided clear evidence that setting goals in combination with intentions action plan improves students' performances in their classrooms.

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Appendix A

Materials Provided to Participants in the Control Group

1. The Control Group Intervention Seminar Handout

2. Things You Should and Should Not Do

3. Successful and Unsuccessful Strategies

4. Manipulation Check Questionnaire

Facilitator: David Dariani
darianid1@mail.montclair.edu
908.400.2711.

The Control Group Intervention Seminar Handout

Introduction and Consent Form collection - 15mins

You are here today because through working with your professor, Dr. Sumner, you have volunteered to partake in my research study that will be looking into how students in college classroom settings use goals to navigate through academia. The purpose of this seminar is to help you do well in the current semester's class. Please think about and consider how to utilize the successful and unsuccessful strategies that we will present here today and apply them to this semester's class.

Brainstorming on things you should and should not do and boarding of those - 20mins

Please begin to think about a class you have done particularly well in, and another that you have not been so successful in or even struggled in. I will pass around a blank "things you should and should not do" form for you to write down, at least three in each column. We will then share those and I will board those approaches, strategies, and behaviors that we all agree would be helpful in doing well in current semester's class.

Break up into groups, brainstorm and fill out successful and unsuccessful strategies form, and boarding of those strategies - 15mins

Now lets move to the group environment and within each group please brainstorm successful and unsuccessful strategies that you have used in the past to do well in your classes. Consider your potential resources, and other available means for helping your

classroom performance in Dr. Sumner's class. In each group, please think of at least three successful and unsuccessful strategies and fill out the form. I will then ask you to share those with the entire group, and I will board those strategies that we all agree would be helpful in doing well in current semester's class.

Devising An Action Plan - 10mins

➢ Now that we've put a little deeper thought into Avoidable and Necessary approaches, strategies, behaviors and techniques that may impact our classroom performances I would like to wrap up this workshop by discussing action planning.

➢ Devising an action plan

-Why do it: It clarifies and organizes goal(s)

-How will it help us: It creates a map to follow in order to reach achievement.

-How does it relate to goal setting: It gives preliminary insight into the process of goal realization and goal setting; and shows the process before the actions are taken.

-What is an **action plan** – a sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed. An action plan has three major elements: 1. Specific tasks: what will be done and by whom, 2. Time horizon: when will it be done, 3. Resource allocation: what tools, behaviors, actions are available and must be taken to succeed.

-Why use an action plan (ex. it creates intent, motivation, organizes, and

provides a definition for the state of achievement).

➤ Upon leaving and throughout your academic career please attempt to utilize

the tips we have come up with today and apply them to your academic

careers. Hopefully you now realize that there's certain behaviors, actions and

techniques that may help or hinder your classroom performances and that not

only should these techniques be considered, they should be prepared and made

into a reality. I thank you all for your time and participation and this

concludes this workshop.

Things You Should Do	Things You Should Avoid

Successful/Helpful Strategies	Unsuccessful Strategies

Choose all options that apply

In this workshop I've learned the following;

A. What implementation intentions are and how to use them with S.M.A.R.T. goals.
B. What S.M.A.R.T. goals are and how to use them.
C. Successful strategies that would enhance my ability to succeed in the classroom

Appendix B

Materials Provided to Participants in Group 2

1. Group 2 Intervention Seminar Handout

2. The Action Planning Chart

3. Manipulation Check Questionnaire

Facilitator: David Dariani
darianid1@mail.montclair.edu
908.400.2711.

Group 2 Intervention Seminar Handout

Introduction and Consent Form collection - 15mins

You are here today because through working with your professor, Dr. Sumner, you have volunteered to partake in my research study that will be looking into how students in college classroom settings use goals to navigate through academia. The purpose of this seminar is to help you all do well in the current semester's class. Please think about and consider how to utilize the goal setting process that we will discuss here today and apply them to this semester's class.

Goals - 5mins

A universal definition we may all understand goal(s) by is: a desired endpoint that is achieved through effort on behalf of the goal-setter. Along with understanding a universal definition of what goal(s) are, it is important for us to discuss what goal(s) do for people. Goal(s) help people to motivate – stimulate towards action, articulate – to give clarity to, and organize – systematize in an orderly, functional, and structured fashion.

Today you are going to learn about goal setting. Goals and goal setting practices have been shown to enhance performance in many areas of life; they have been shown to work in arenas from Athletics to Zookeeper animal training and everywhere in between. Surprisingly, even with research proving it enhances performances, we have not been

teaching students in the classrooms around the world how to implement successful goal setting practices into their academics.

Devising S.M.A.R.T. Goals - 30mins

What is a S.M.A.R.T. goal: Specific, Measureable, Attainable, Realistic, and Time-bound.

Specific – A specific goal has a much greater chance of being accomplished than a general goal. To make your goals more specific, you needs to think of the "*6 W's*" in relation to your goal; *who, what, where, when, which, why.*

-Who – who is involved?

-What – what do I want to accomplish?

-Where – Identify a location

-When – Establish a time frame

-Which – Identify requirements and constraints

-Why – Specify reasons, purposes, and benefits of accomplishing that goal

Measureable – Establish concrete criteria for measuring your progress towards goal completion. Design your goal so that it creates several means of measurement that tracks your goal all throughout the goal process. This provides many mini-achievements along the way giving further motivation, keeps you on track, and allows you to record your progress. To determine if your goals are measureable ask yourself questions such as: *How much? How many? and, How will I know when my goal is accomplished?*

Attainable – You can attain almost any goal you set for yourself when you plan your process-steps wisely, and establish a time-frame that allows you to carry-out those steps. It's the planning that makes goals attainable. Planning enhances the attainability

of goals because it creates goal clarity by helping define what the accomplished goal state is; and allows you to understand what it takes to get to this state of achievement.

Knowing what the goal is, what defines goal-accomplishment, and steps you might take to reach and complete your goal allow you to increase your understanding of all aspects of your goal, and adapt your behaviors into doing what it takes in order to achieve your goal. Also, listing goals can enhance attainability because listing creates a solid frame of reference to what you consider your goals to be; and by writing the goals down it creates a connection between you and your goals, goal state, and needed behaviors to attain your goals.

Realistic – In order to be realistic, a goal must represent an objective that one is both *willing* and *able* to work towards. Goals don't have to be too easy to be realistic, a realistic goal can still be a difficult goal and it is up to the individual to set the degree of difficulty in their goal processes; however, always be sure that a goal represents substantial progress for your knowledge, skill, and ability level. Setting low goals actually exerts low motivational force, so it is considered better to set higher difficulty goals because they provide motivation to get to the next level of personal skill. In order to determine whether a goal you have set is realistic; try comparing it to goals you have achieved in the past. And finally, to best determine if a goal you have set is realistic ask yourself the question; what conditions would have to exist for me to accomplish this goal? If the conditions are impossible, improbable, unlikely, doubtful, ridiculous, and/or implausible; consider revising your goal until the conditions are more; realistic, sensible, practical, and reasonable.

Time-bound – A goal should be grounded with(in) a time-frame. By setting guidelines based on time, you've set your mind into motion to begin working on that goal. Time-frames also allow one to see whether they are putting forth sufficient effort towards reaching their goal(s). If a goals achievement time remains broad or undefined it doesn't create the proper sense of urgency necessary to remain proactive towards the pursuit of goal completion. Finally, time-frames help organize goal processes, behaviors, and actions by designating specific instances in time to complete objectives within the goal process.

Now that we know a little more detail about what S.M.A.R.T. goals are, I'd like everyone to get into small groups and come up with 3 S.M.A.R.T. goals to use in Dr. Sumner's class this semester. After brainstorming a list with your partner(s) I will call out volunteers to share one or more of what they have come up with the class and we will board a master list which will promote successful performance in this semester's class.

Devising An Action Plan - 10mins

➤ Now that we have a better understanding of what goals and S.M.A.R.T. goals are, I would like to conclude this seminar by discussing action planning, and showing you by way of example how to convert your general goals into S.M.A.R.T. goals.

➤ Devising an action plan

-Why do it: It clarifies and organizes goal(s)

-How will it help us: It creates a map to follow in order to reach achievement.

-How does it relate to goal setting: It gives preliminary insight into the process of goal realization and goal setting; and shows the process before the actions are taken.

-What is an **action plan** – a sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed. An action plan has three major elements: 1. Specific tasks: what will be done and by whom, 2. Time horizon: when will it be done, 3. Resource allocation: what tools, behaviors, actions are available and must be taken to succeed.

-Why use an action plan (ex. it creates intent, motivation, organizes, and provides a definition for the state of achievement).

Now that we know more about action planning and S.M.A.R.T. goal setting, I will hand out the blank action planning chart and I would like everyone to develop goals that they would like to accomplish in the current semester's course. Please fill in the chart on your own time based on our discussions today with regards to those goals and use it to accomplish your goals successfully

Thank you all for your participation in this seminar. I hope that as you navigate through your academic careers and lives that you keep in mind the elements of goals and goal setting that we have discussed today and implement them into your agendas. Thank you and this concludes this seminar.

ACTION PLANNING CHART

Goals/Strategies/ Tasks	Purpose	Who Will Do It	When Will This Be Accomplished	Resources/ Resource Allocation	Benchmark

Choose all options that apply

In this workshop I've learned the following;

A. What implementation intentions are and how to use them with S.M.A.R.T. goals.
B. What S.M.A.R.T. goals are and how to use them.
C. Successful strategies that would enhance my ability to succeed in the classroom

Appendix C

Materials Provided to Participants in Group 3

1. Group 3 Intervention Seminar Handout

2. The Action Planning Chart

3. Manipulation Check Questionnaire

Facilitator: David Dariani
darianid1@mail.montclair.edu
908.400.2711.

Group 3 Intervention Seminar Handout

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Explanation of what S.M.A.R.T Goals and Implementation Intentions Are - 30mins

In the studying of goals and goal setting it has been shown that two main factors affect performance; setting goals that are S.M.A.R.T., and setting intentions to reinforce those goals.

What is a S.M.A.R.T. goal: Specific, Measureable, Attainable, Realistic, and Time-bound.

Specific – A specific goal has a much greater chance of being accomplished than a general goal. To make your goals more specific, you needs to think of the *"6 W's"* in relation to your goal; *who, what, where, when, which, why.*

-Who – who is involved?

-What – what do I want to accomplish?

-Where – Identify a location

-When – Establish a time frame

-Which – Identify requirements and constraints

-Why – Specify reasons, purposes, and benefits of accomplishing that goal

Measureable – Establish concrete criteria for measuring your progress towards goal completion. Design your goal so that it creates several means of measurement that tracks your goal all throughout the goal process. This provides many mini-achievements along the way giving further motivation, keeps you on track, and allows you to record your progress. To determine if your goals are measureable ask yourself questions such as: *How much? How many? and, How will I know when my goal is accomplished?*

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Knowing what the goal is, what defines goal-accomplishment, and steps you might take to reach and complete your goal allow you to increase your understanding of all aspects of your goal, and adapt your behaviors into doing what it takes in order to achieve your goal. Also, listing goals can enhance attainability because listing creates a solid frame of reference to what you consider your goals to be; and by writing the goals down it creates a connection between you and your goals, goal state, and needed behaviors to attain your goals.

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realistic goal can still be a difficult goal and it is up to the individual to set the degree

of difficulty in their goal processes; however, always be sure that a goal represents

substantial progress for your knowledge, skill, and ability level. Setting low goals

actually exerts low motivational force, so it is considered better to set higher difficulty

goals because they provide motivation to get to the next level of personal skill. In order

to determine whether a goal you have set is realistic; try comparing it to goals you have

achieved in the past. And finally, to best determine if a goal you have set is realistic ask

yourself the question; what conditions would have to exist for me to accomplish this

goal? If the conditions are impossible, improbable, unlikely, doubtful, ridiculous, and/or

implausible; consider revising your goal until the conditions are more; realistic, sensible,

practical, and reasonable.

Time-bound – A goal should be grounded with(in) a time-frame. By setting

guidelines based on time, you've set your mind into motion to begin working on that

goal. Time-frames also allow one to see whether they are putting forth sufficient effort

towards reaching their goal(s). If a goals achievement time remains broad or undefined it

doesn't create the proper sense of urgency necessary to remain proactive towards the

pursuit of goal completion. Finally, time-frames help organize goal processes, behaviors,

and actions by designating specific instances in time to complete objectives within the

goal process.

Setting an Implementation Intentions and devising an Action Plan

> ➢ Implementation intentions are essentially a detailed plan of action to reinforce
>
>   goals. Intentions action plan are important because they create behavioral intent,

provide motivation, give clear articulation of what steps it takes to achieve your goals.

➢ Devising an intention action plan

-Why do it: It clarifies and organizes goal(s)

-How will it help us: It creates a map to follow in order to reach achievement.

-How does it relate to goal setting: It gives preliminary insight into the process of goal realization and goal setting; and shows the process before the actions are taken.

-What is an **action plan** – a sequence of steps that must be taken, or activities that must be performed well, for a strategy to succeed. An action plan has three major elements: 1. Specific tasks: what will be done and by whom, 2. Time horizon: when will it be done, 3. Resource allocation: what tools, behaviors, actions are available and must be taken to succeed.

-Why use an action plan (ex. it creates intent, motivation, organizes, and provides a definition for the state of achievement).

Preparing a detailed Goals in combination with an Intentions Action Plan - 15mins

➢ Please partner up with the person next to you. Brainstorm and write down a goal for this semester's class (each person), then switch what you have written with your partner.

➢ Please devise and specify intentions on the Action Planning Chart to back up your partner's goal. Then share with your partners what you have come up with to help them achieve their goal.

➢ By way of example, I asked for volunteers and showed the group how to prepare goals in combination with an intentions Action Planning Chart for a goal related to their current semester's course.

Upon leaving and throughout your academic career please attempt to utilize the skills you have learned today and apply them to your academic careers, specifically your current semester's class. Hopefully you now realize that there's certain behaviors, actions and techniques that may help your classroom performances and that not only should these techniques be considered, they should be prepared and made into a reality. I Thank You all for your time and participation and this concludes this seminar.

ACTION PLANNING CHART

Goals/Strategies/ Tasks	Purpose	Who Will Do It	When Will This Be Accomplished	Resources/ Resource Allocation	Benchmark

Choose all options that apply

In this workshop I've learned the following;

A. What implementation intentions are and how to use them with S.M.A.R.T. goals.
B. What S.M.A.R.T. goals are and how to use them.
C. Successful strategies that would enhance my ability to succeed in the classroom