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A Case for Collaboration: A Manual for Bringing the Collegiate Tutoring Model to the High
School Level

By

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A Thesis Submitted to Fulfill the Requirements of the Honors Program at Assumption College



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Introduction

My sophomore year of high school, I walked into my midterm expecting to fail. The anticipation made me sick. When I looked at the exam, I considered picking up my bag and walking out. I could read the questions and all of the words made sense but I could not figure out what they wanted me to do to solve the problems. All the time I had spent studying was useless. The results of the exam were posted almost immediately. I was standing in the hallway with my classmates when we saw our grades. My heart, stomach, and self-esteem simultaneously hit the floor when I read “68”. Several of my classmates burst into hysterics when they saw similar grades. My mother hired a private tutor - a local college student - to help me prepare for the Advanced Placement (AP) exam within two weeks of the midterm. I did well in the class despite the 68 on the midterm, and scored in the top 25% on the AP exam, which I took about three months after the midterm. However, my classmates were not so lucky. Some scored only in the bottom 50%; others elected to not even attempt the test.

There were several reasons I did poorly on my midterm: I was confused about the material, frustrated with my inability to learn it, and lacking supplemental resources. Once I started working with my tutor, these problems were solved. With one-on-one help, material was explained to me at a pace I could understand. I was able to ask questions as soon as I struggled with the material, which alleviated my frustrations. My tutor even showed me resources I could use on my own, such as websites or resources in my book.

Unfortunately, private tutoring is cost prohibitive for many students. A resource I found so helpful should be widely available to discouraged and frustrated students, not allotted to only a limited few. However, the only similar option available at my high school was a loosely structured system within the National Honors Society, which required an intense email chain and in-person interviews to coordinate a location and time for a tutoring session.

When I got to college, tutoring suddenly became commonplace, both formally and informally. Informally, I proofread my friends' papers while they proofread mine; I studied for tests and quizzes in groups. Academics became the focal point of our camaraderie. Formally, the college had an extremely organized tutoring program, called the "Academic Support Center." With one phone call, a tutoring session could be made for virtually any class. There was never any question of where the tutoring session would take place, as the center had its own space on the second floor of the library. On top of everything, the tutors were paid for their time. It seemed like a system that had been organized and cultivated over time to give all parties the best possible experience.

With tutoring and collaboration such an integral part of the culture, people's attitudes about asking for help were much different. It seemed to me that less students felt their academics were something they had to struggle through alone, as with my AP Chemistry class, and more felt like they had support and resources to truly apply themselves. At the same time, students were more confident in their abilities to overcome the challenges presented by higher education.

I had to come to college to experience this supportive, academic-focused environment, but I believe that it should be something that all students have the opportunity to be a part of

before reaching the world of higher education. After all, there are compulsory education laws in effect in all fifty states of the United States. Why should these years be spent studying alone, only to graduate to a world of collaborative learning? If we are going to expect students to be able to work together in higher education and in the workplace, these are skills they should develop early on in their education.

Tutoring

Tutoring has been shown to have many beneficial effects for all connected parties. Tutees - the students being tutored - see an increase in their academic performance and in their academic self-concepts. Tutors also see an increase in their academic performance, develop a deeper understanding of the material they are tutoring, and expand their soft skills, such as communication. Even groups that are not directly involved in the tutoring process, such as teachers and students who are neither tutees nor tutors, stand to benefit. Teachers are given a new tool to reach students and the entire school culture can evolve to include collaboration as a new norm.

While tutoring today is often thought of as an expensive resource offered by private companies or a remedial session for students on the verge of failing, the practice of tutoring itself is something that has been utilized since the ancient Greeks (Topping, 1996). Tutoring evolved from the Socratic Method. In this learning process, students are asked questions in one-on-one or small group conversations to stimulate their thinking and encourage them to delve deeper into their own understanding. Similarly, Pythagoreans would discuss their geometric theories together

in order to develop and test their ideas – like defending a dissertation before a board of peers. Peer tutoring evolved from this vein of collaborative learning. Collaborative learning involves two student learners working together to achieve understanding. Within this definition, there are several categories of peer tutors who can be involved in collaborative learning. Heterogeneous tutoring uses students with higher levels of understanding to tutor those in their grade; homogenous tutoring uses students of similar skill levels; and, cross-age tutoring uses older students to teach younger students (Stenhoff & Lignugaris/Kraft, 2007).

In colleges across America, peer tutoring has become a common phenomenon. With undergraduates coming from very different backgrounds - foreign exchange students and different socio-economic backgrounds, for example - colleges have turned to peer tutoring. Many undergraduates naturally seek out the opinions and help of others; conversations such as “Will you proof my literature paper?” “Only if you help with my calculus homework.” are commonly overheard in dorm rooms. When this informal arrangement becomes a professional and official system, all students have access to the support of their peers. This collegiate model, often called a “Learning Center” or an “Academic Support Center,” provides peer tutoring by request within designated hours at a campus location. The goal of Learning Centers is to support students in their academic endeavors by providing assistance in various subject areas. For example, there will be tutors not only for subjects like math or history, but also tutoring in study skills or note organization. Learning Centers use peers as tutors, making learning one-on-one, which benefits the increasingly diverse backgrounds and needs of college students.

Many high schools today see similar diversity in the backgrounds and needs of their students. For example, Taconic High School in Pittsfield, MA is a public school for grades nine

through twelve that serves a wide range of students. During the 2012-2013 school year, forty-nine percent of the student body qualified for free or reduced lunch (“Taconic High School”, 14 Feb. 2016). This means that these students came from families already enrolled in the Supplemental Nutrition Assistance Program (SNAP), the Food Distribution Program on Indian Reservations, or Temporary Assistance for Needy Families (TANF), or the household’s gross income fell below the Federal Income Eligibility Guidelines (“Free and Reduced Meal Application Letter to Households.”, 17 Mar. 2017). Fourteen percent of students received scores of “failing” or “needs improvement” on the English Massachusetts Comprehensive Assessment (MCAS) exam and twenty-four percent received the same on the Mathematics MCAS exam (“Taconic High School”, 14 Feb. 2016). While thirty-two percent of the student body was involved in Advanced Placement (AP) classes, less than half of them received passing grades on the exams (“Taconic High School”, 14 Feb. 2016). The distribution of family incomes in Pittsfield (the graph below) shows that while many students qualified for free or reduced lunch, there were also many who came from affluent families. Taconic High School’s school zone captures the population of both affluent and impoverished neighborhoods, contributing to this income gap. By the time these students have reached high school, there will be some who have had access to the best resources for their academics and interests, and others who have not had the same opportunities. This difference in socio-economic background means that by the time students reach high school they have diverse educational needs. For example, some students may need extra attention in a certain subject but have to work after school, meaning that they have less time to devote to homework and cultivating understanding of the material; when less time is

spent doing homework and reading texts, there is less chance to develop solid study skills, putting them at a disadvantage to peers who have more time or better resources.



(Based on data from the 2010 Census, ("Pittsfield, Massachusetts Population: Census 2010 and 2000 Interactive Map, Demographics, Statistics, Quick Facts")

High schools like Taconic - schools that have students from diverse socioeconomic backgrounds with diverse academic needs - could greatly benefit from the formation of a collegiate style Learning Center. For the same reasons that such models have been readily adapted into U.S. colleges and universities, peer tutoring could help to support high school students in every subject. High school students are athletes, actors, singers, artists, employees, and - perhaps most importantly - young adults preparing for the next stage of their lives, and therefore their diverse needs should be considered. Peer tutoring brings benefits to many groups of people: tutees, tutors, teachers, and the school community all benefit from successful

appointments. Adapting the collegiate style tutoring center to fit the needs of a high school is one potential way to help the entire school.

Tutees

Benjamin S. Bloom is most famous in education circles for his Taxonomy of Educational Objectives, published in 1956. Commonly referred to as “Bloom’s taxonomy,” the system detailed six levels of learning objectives, separated by complexity and explicitness. My high school English teacher had them written on the board for the entire school year and often asked us to categorize our responses into a level, constantly pushing us to delve into the more complex categories of the taxonomy.

Years after publishing his famous taxonomy, Bloom (1984) compared and contrasted controlled results in student performance for conventional classes, mastery learning classes, and tutoring and reported that tutoring put the average student two standard deviations above the average of the control class. Another way to interpret these results is that “about 90% of the tutored students ... attained the level of summative achievement reached by only the highest 20%” of the control class” (Bloom, 1984). Imagine that the top twenty percent of a high school class have an average grade of an eighty-five or higher. According to Bloom’s research, if this class was tutored, then about ninety percent of the class would be achieving an average grade of an eighty-five or higher. This could mean that ninety percent of the class qualified for honor roll.

This result may not be surprising, as individualized attention is more readily adapted to the needs of the tutee. One would expect a student who had access to a private instructor to

perform better than if they were in a classroom of twenty students. After all, they are receiving significantly more of the instructor's focus, time, and energy than when it is divided across an entire classroom. Bloom's results show that all one-on-one instruction, commonly called tutoring, results in higher achievement for students. However, his results do not speak directly for peer tutoring, a specific type of one-on-one instruction in which the tutor and the tutee are roughly the same age. Research that specifically addresses the benefits of peer tutoring has been conducted by others.

For example, in a meta-analysis of twenty-six papers, peer tutoring was identified to increase the academic performance of tutees by seventy-five percent (Bowman-Perrott et al., 2013). As opposed to Bloom's study, which used professional instructors, this meta-analysis focused on reports where the tutors and tutees were equals. This shows that although the tutors may not be professional instructors, they are still able to help tutees achieve comparable positive results. In fact, peer tutoring may be able to help tutees in ways that professional instructors cannot.

Peer tutoring is helpful in addressing a phenomenon called "expert blind spot," which refers to the difficulty specialists have explaining their thought processes in their field of study (Herppich, Wittwer, Nuckles & Renkl, 2010). Teachers and professors are regarded as experts in their fields, as a result of the amount of information they know and convey. After all, an art teacher can identify the date of a work by eye, a math teacher can solve complex problems without referencing formulas, and a foreign language teacher can speak without grammatical error or pausing to translate. All of this, to a novice in the subject, seems almost like magic or the result of a natural gift. In truth, the performance of experts comes from their ability to "create

and maintain, often unconsciously, a complex network that connects the important facts, concepts, procedures, and other elements within [their] domain,” (Ambrose, 2010, p. 43). However, because these networks are largely unconscious, an expert is less likely to be able to outline their cognitive processes when working within their area of expertise (Ericsson & Simon, 1984). Peers can more easily access and explain the mental processes they used to learn the subject material and answer questions (Herppich, Wittwer, Nückles & Renkl, 2010). When students learn a new subject, they are forming their own networks. For this reason, the assistance of peers in connecting information can be valuable to learning new material.

While it has been found to have positive effects across subjects, peer tutoring has a larger effect in certain ones; for example, tutoring in math had a larger effect on academic performance than tutoring in reading (Cohen, Kulik, & Kulik, 1982). This may be attributable to the fact that, when solving a math problem, a student can usually check to see whether their final answer is correct or not. If she discovers it is incorrect, then the student knows that she made a mistake immediately and a tutor can easily point out where in the process the mistake was made. With reading, there is no easy way to check that one is interpreting the text correctly until the reader receives the input of another person. If it is discovered that the interpretation is incorrect, it requires discussion between the tutor and tutee to pinpoint where the misinterpretation was made. Thus, reading is not as easily correctable as math. However, while tutoring has a bigger impact in math, it still provides positive gains in reading (Cohen, Kulik, & Kulik, 1982).

There is a demonstrated need to improve students’ mathematics performance in the United States. The Programme for International Student Assessments administered a mathematics assessment to fifteen year-old students in many different countries. Compared to

the other thirty-four countries included, the United States performed significantly below average for mathematics, achieving twenty-sixth place (OECD, 2013). In reading and science, the U.S. got seventeenth and twenty-first respectively, putting performance around average. This demonstrates the need to increase students performance in mathematics. The report from the Programme for International Student Assessments specifically states that “much more focus is needed on higher-order activities, such as those involved in mathematical modeling (understanding real-world situations, transferring them into mathematical models, and interpreting mathematical results)” (OECD, 2013). These types of topics require more conceptual understanding than basic skills such as arithmetic. Working one-on-one with a peer tutor could provide the attention and correction to create true understanding of more complex concepts, addressing the problem of student performance in mathematics.

As with all educational tools, it is important to ensure that all students, regardless of background, stand to benefit. With peer tutoring, gains in academic performance have been recorded for students with learning disabilities (Brewer, Reid, & Rhine, 2003; Okilwa & Shelby, 2010; Mastropieri, Scruggs, Spencer, & Fontana, 2003; Stenhoff & Lignugaris/Kraft, 2007) and minority students (Robinson, Schofield, & Steers-Wentzell, 2005). Because these groups face achievements gaps (Cortiella, Horowitz, Newman, & Kaye, 2014; Howard, 2010), peer tutoring could be used as a tool to help bring them closer to the achievement level of their peers. This would mean more minority students and students with disabilities pursuing higher education, as they would have a stronger educational background. With more diverse college graduates, the workplaces of the United States would also grow to be more inclusive.

While peer tutoring is shown to improve academic performance, it also can have a lasting effect on tutees' academic self-concept, the self-esteem of learning. Just like self-image is our confidence in our appearances, academic self-concept describes our confidence in our individual abilities to learn. We form the self-concept by comparing our own performance and abilities to the perceived performance and abilities of our peers. If a student feels that she struggles more than the rest of the class, then she will become discouraged about her ability to perform well in that subject. For some students, a negative academic self-concept can affect their performance across the entire curriculum.

One study that explored the effects of peer tutoring on academic self-concept surveyed African American fourth- and fifth-graders who had been randomly selected to participate in reciprocal peer tutoring (where two students alternate between being the tutor and being the tutee). These students rated their academic competence significantly higher than those who had studied alone (Fantuzzo, King, & Heller, 1992). Another study found gains in academic self-concept for tutored students in cross-age and peer tutoring (Topping, Miller, Thurston, McGavock, & Conlin, 2011). This shows that peer tutoring is helpful in improving the way students view themselves as learners. These gains are perhaps more meaningful than those in academic performance, because they show that the tutee has begun to feel more confident in the subject area, as opposed to just getting better grades. The improvements in academic self-concept are likely correlated to the increases in academic performance.

Tutees can benefit from peer tutoring by not only improving their academic performance, but also by changing the way they think about their relationship with learning. With better study skills, they will be better prepared to perform to the best of their abilities. Hopefully, these

students can go forward in their academic careers with a desire to know more and continuously do better.

Tutors

As well as helping tutees, tutoring also benefits the tutors themselves. Peer tutoring has been demonstrated to benefit the academic performance of tutors. This can be surprising because tutors are perceived as being high performing in the subjects that they tutor. Yet, Cloward (1967) reported that peer tutoring was effective in improving the academic performance of the study's tutors. Cohen and Kulik also reported in their meta-analysis that on examinations in the tutored subject matter tutors outperformed control students (Cohen & Kulik, 1981). Data collected about student writing from a tutoring center indicated that tutors improved in every measured area of their writing (Medcalf, Glynn, & Moore, 2004), showing again that tutoring improves the academic performance of tutors. These findings span almost forty years, showing that something fundamental is leading to the gains.

Tutoring, when done effectively, uses strategies such as posing questions or providing feedback (Vanlehn, Siler, Murray, Yamauchi, & Baggett, 2003). These strategies require that tutors utilize their own knowledge in new and unique ways in order to help their tutees learn. These mental tasks make tutoring a demanding task, which may help to explain why tutors see gains in their academic performance. For example, when tutors engage in effective tutoring strategies such as posing questions, it requires that they “metacognitively reflect upon their own expertise and comprehension, and constructively build upon their prior knowledge by generating

inferences, integrating ideas across topics and domains, and repairing errors” (Roscoe & Chi, 2007). In other words, in order to help tutees, tutors have to think about everything they know in the subject repeatedly, providing them with opportunities to build onto this knowledge. Roscoe and Chi refer to this process as “reflective knowledge-building,” as the tutors are expanding their knowledge by constantly developing new connections and understanding through the tutoring process. This creates a rich and expansive web of connections amongst the tutor’s content knowledge.

Tutors at Assumption College’s Academic Support Center (ASC) were interviewed to gather firsthand accounts of the effects of tutoring. The ASC has been evolving for over fifteen years and as a College Reading & Learning Association (CRLA) certified tutoring center, there are specific categories and time requirements for training tutors. The center also participates yearly in the New England Peer Tutoring Association (NEPTA) conference, where tutors from participating colleges across New England give presentations about skills, situations, or problems associated with tutoring. Because of the training requirements and continuous cultivation of skills, the ASC tutors are an example of how tutors evolve over time.

When interviewing tutors at the Assumption College Academic Support Center, the topic of development of knowledge came up frequently. One tutor said, “[tutoring] has given me the opportunity to continually review the material from these other classes, which has definitely helped my understanding of my higher level classes.” Another said, “As a tutor, I have had the pleasure to work with a wide range of students, and therefore I have seen a breadth of different learning styles, skills, and strategies. By working with these students, I have been able to incorporate these skills and strategies into my own learning and therefore, I have become a better

student.” Thus, the process of tutoring not only allows tutors to make new connections on their existing knowledge webs, but also exposes them to different ways of studying and learning. This not only increases their own performance, but provides them with different options to present to tutees.

It may seem that there is no need to cultivate the academic performance of students who are already excelling beyond their peers. However, there are subsets of students who perform well but would still greatly benefit from the support. For example, there is a need to help high-achieving lower-income students continue to perform well (Wyner, Bridgeland, & DiIulio, 2007). These students are often overlooked by the school system when their performance drops, because when they fail to reach their academic potential they do not become low-achieving. Tutoring could assist these students in maintaining their performance by giving them an outlet for continued review and contemplation in an academic-focused environment they may not otherwise have access to.

By supporting students who perform well, peer tutoring is once again a tool that can be used to help close the achievement gap between socioeconomic, racial, and disabled students and their peers. It can help to ensure that these students continue to achieve their academic potential by supporting their previously established knowledge and providing new tools for learning. It would also provide a supportive academic-focused environment that some students may not have access to in another form. For example, some students may come from a household where there is not an adult around to motivate them to continue to perform well in school or to explain why academic performance is important. The supportive environment of a tutoring center could help

to instill these students with the sense that education has an intrinsic value, motivating them to continue to learn at their full potentials.

In addition to improving academic performance, tutoring is also a means of promoting collaboration among students. Studies suggest that there are two dimensions to personal academic goals and beliefs about the cause of school success (Nicholls, Cheung, Lauer, & Patashnick, 1989; Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990): task orientation and ego orientation. Task orientation can be summarized as the desire to gain understanding, while ego orientation is the desire to be superior to or outperform others. In academics, this difference is learning for its own sake (task orientation) versus competing against other students (ego orientation). Both can motivate students to be high-achieving and neither is inherently negative; anyone who has ever been close to being valedictorian or salutatorian will attest that competition is a part of her motivation to continue to perform well. However, task orientation is what encourages students to collaborate with each other (Duda & Nicholls, 1992). As tutoring is direct collaboration, this encourages students to set task oriented goals for themselves, which prompts them to attribute a more intrinsic value to learning. This is potentially valuable for students who are entering higher education or the workforce, as it could prevent burn out.

Peer tutoring also helps tutors develop critical soft skills, such as communication (e.g. clear expression, giving feedback to others, and awareness of nonverbal cues) (Foster, 1983). This skill set is necessary for success in many careers, as employers are more willing to hire candidates that show they have the soft skills needed to quickly adapt to the new situation. For example, rising through the fields of accounting (Boyle, Mahoney, Carpenter, & Grambo, 2014) or medicine (Deveugele et al., 2005) requires well-developed communication skills. When

interviewed, many Assumption College tutors identified tutoring as beneficial for their communication. One Biology tutor said, "Being a tutor has also made me more comfortable public speaking. I used to be embarrassed presenting and answering questions about projects in front of a class or a group of people, but tutoring has increased my confidence in this area. I am now able to get in front of a group of people and explain concepts and answer questions just as I do for a tutee." Improving communication can benefit tutors who are looking for employment or interviewing for college admission. In a survey of personnel interviewers, respondents said that only sixty percent of people they interviewed exhibited effective communication skills (Peterson, 1997). Thus, by being prepared to communicate with interviewers, tutors are set apart from a large percentage of applicants.

Other soft skills such as time management, cultural awareness, and conflict management can be gained as a tutor. Skills such as these are often included in training tutors ("International Tutor Training Program Certification (ITTPC)", 2015) because they are needed to manage a tutoring session and create a comfortable environment for the tutee. These skills are also needed to market oneself, and therefore enhance the hard skills (also called technical skills) that the tutor already has (Schulz, 2008).

While we often think of tutors as experts, they are still students themselves. The process of tutoring can expose new connections that will help them to learn faster and perform even better. This can help them to explore and test the limits of their own ability, providing a challenge for the students who already exceed expectations. By gaining soft skills, tutors are prepared to work and communicate effectively with other people, preparing them for the next step in their lives.

Larger Learning Community

While tutees and tutors are directly involved in the tutoring process, there are also benefits for those who do not take part in appointments. These benefits are a result of the changes in the tutees and tutors as a result of their participation.

For example, peer tutoring programs provide benefits to teachers. As an evidence-based practice, peer tutoring can assist teachers in providing individualized instruction (Greenwood et al., 1987). Because one teacher is assigned to an entire classroom of students with varying needs, it can be difficult to provide every student with the individual attention that they need. Even when teachers stay after school to provide extra help, they still usually need to split their time among the smaller ratio of students. Because peer tutoring is by nature one-to-one, it can be a helpful tool in providing an individual student with the prolonged attention they need to understand a subject.

Also, peer tutoring may be able to reach students that teachers have not been able to, as the peer tutors are equals to the students they tutor, not in a position of hierarchal power as teachers are (Glynn, 1985). Even the best teachers may struggle to get some students to understand the material because of this imbalance. Tutors do not have the power to fail or punish their tutees, which may make it easier for them to reach them. Additionally, tutors are able to overcome expert blind spot, as discussed earlier.

It is important to note that the goals of peer tutoring programs and teachers are the same: to help students perform well academically by maximizing their understanding of subject material. By partnering with programs, teachers can become facilitators of independent and

collaborative learning amongst their students (Gensemer, 2000). By encouraging their students to take control of their education and seek additional help, teachers are identifying a resource for students that will help them to gain study skills and improve their performance and confidence. Peer tutoring is a tool that works in conjunction with classroom instruction and teachers to maximize students performance capabilities. It should not be viewed as a replacement to teacher instruction, but as an additional component for helping students to learn.

As a place where students are free to engage each other in academic discussion, tutoring centers can be collaborative and engaging for students (Greer & Trofimoff, 2013). This can help students to learn how to discuss academic material together, allowing for more enriching classroom discussion. Also, it encourages students to talk to each other about their individual understandings. By exchanging points of view and ideas, students gain additional insight into the material they are discussing. This spreads the benefits of tutoring outside of the center to the classrooms of tutors and tutees.

In this way, the program can contribute to the school's cultural attitude towards learning. As the program becomes an integrated structure in the school and more students take advantage of the help, it is common for the stigma of receiving help to diminish in the school's culture, for students to become more active in the learning process, and for students to develop stronger cooperative skills (Topping, 2005). As Topping concludes his article, "All of this influences the school ethos, developing a cultural norm of helping and caring. [Peer tutoring] can contribute to a sense of cohesive community," (Topping, 2005). Students generally do not have much opportunity to interact genuinely with each other during the school day and form relationships

(Osterman, 2000). Peer tutoring could be an opportunity to meet new people and increase individuals' sense of belonging within the school community.

This sense of community is very important in high schools. For example, schools with a higher sense of community have lower rates of student drug use and delinquency (Battistich & Hom, 1997). This shows that the sense of connection that students experience influences their behavior, amongst other variables. In 2000, Karen Osterman wrote a review of literature related to students' sense of belonging in the school community. She concluded that student performance and quality of learning benefit from increased sense of community. As Osterman noted, students can use the interpersonal skills they develop in their classroom setting in other areas of their life. Also, she concluded that an increase in sense of community changes the way students view themselves and therefore affects their engagement and achievement. While tutoring can affect tutees' academic self-confidence through instruction, an increase in community can also help other students in this area.

The benefits of peer tutoring are not limited to the tutors and tutees that directly participate in the program. Teachers are given an additional tool to help their students achieve their best and the entire school culture can evolve into a more caring and connected community. This kind of change would help all students begin to experience the benefits of tutoring whether or not they ever set foot into the center.

Tutoring Centers in High Schools

While tutoring centers are common across college campuses, they are not easy to find at the high school level. Often, high schools have loosely structured peer tutoring that allows students identified as at risk in a certain subject by their teachers access to help.

For example, Taconic High School in Pittsfield, MA (used earlier as an example of diverse academic needs in high school populations) uses students inducted into their chapter of the National Honor Society (NHS) as tutors. They do not provide formal training to tutors or request hours of availability in advance. Instead, students in need of tutoring get in contact with the head of the NHS, a faculty member at the high school, who then contacts the student guidance counselor for access to their class schedule. A student's class schedule is sealed information, so this process can take from a few business days to a couple weeks. Once the head of the NHS has the tutee's schedule, she looks over the list of NHS students who said they could tutor that subject area and finds one who has the same availability in their schedule as the tutee. Then, she contacts the potential tutor about the tutoring appointment and waits for a reply confirming that they are available. In this fashion, scheduling one tutoring appointment can take well over a week, which delays students access to the help they need. When the tutoring appointments are finally scheduled, there is not a place where all tutoring appointments are kept track of or a place where tutors can take notes on what was done during the appointment. Also, there is no system for formalized feedback from tutees. If tutors are not helping tutees to better understand the material, there is not established channel for communicating this to the head of

the NHS or the tutor. As an example of a common high school tutoring system, Taconic has untrained tutors and lacks formal channels for scheduling or evaluation.

Some high schools have attempted to emulate the collegiate model before. Wachusett Regional High School in Holden, MA had restructured their peer tutoring to include scheduling appointments online in slots set by tutors in advance. The tutors received volunteer hours that they could use to maintain their NHS membership. However, Wachusett found that tutees were not scheduling appointments as frequently as they had hoped, so they changed the program to be drop-in; instead of scheduling an appointment, students who needed help could just come to the center and if a tutor was available they could receive help. For Wachusett, this improved the number of tutees utilizing the center. Even when implementing a more formalized tutoring center, tutors were still not provided with training and tutees were not given a channel for providing feedback.

However, it is possible to successfully integrate a peer tutoring center into a high school. Beginning in 1988, Anderson School District One in South Carolina served as the pilot for a dropout prevention program. With funding and help from the National Dropout Prevention Center, a tutoring program was established (Little, 1990). A year after the program was implemented, the Tutoring Coordinator, Joanne Little, published a manual to help other schools achieve the same success they did - increases in homework completion, raised test scores, improved daily attendance, and more positive attitudes towards school and learning. The program at Anderson School District One is an example of taking the full collegiate tutoring center model and adapting it to the high school level.

Peer tutoring centers bring many benefits to the schools and people they serve. As a tool that can be adapted to individual needs, it could help to address many problems that diverse schools experience. While setting up a center can seem like an overwhelming task, the reasons to try outweigh the reasons to wait. Following this section is a guidebook created to assist anyone who wants to bring these benefits to a school near them. As racecar driver Mario Andretti said, “Desire is the key to motivation, but it's determination and commitment to an unrelenting pursuit of your goal—a commitment to excellence—that will enable you to attain the success you seek.”

What is a Tutor? - Definitions and Clarifications

Before discussing the details of establishing a tutoring center, it is necessary to understand the basic terms and roles associated with the practice of tutoring. This chapter should help to clarify:

1. The definition and the role of the tutor in the tutoring center.
2. The primary goal of tutoring.
3. The difference between tutors and teachers.
4. The use of the term “tutee.”

Definition and Role of the Tutor

In a tutoring center, a tutor is a trained person who, in a calm and structured learning environment, helps peers - one-on-one or in small groups - to become independent learners who can achieve their academic potentials. This is a somewhat wordy definition, so we will break it down into its different aspects.

A tutor is trained in skills and rules that enhance their ability to assist students. Depending on the tutoring center, the exact skills and rules will differ; however, a few will be common. For example, all tutors should know to avoid academic plagiarism and to frequently check in with their tutees' understanding of the subject material.

The environment is an important part of making tutoring productive. Sessions should always be held in a calm environment such as a library, an empty classroom, or a designated

tutoring center in order to provide distraction-minimized surroundings. The structure of the environment comes from belonging to an organized tutoring center, which ensures that there is a process for scheduling sessions that plans for the time and location of meetings and provides a tutor that meets the needs of the tutee(s).

Tutors and their tutees, by our definition, are peers. This means that they are all at comparable levels in their education (e.g. all are high school students or all are undergraduate students). This helps to establish an equal relationship between them and also means that the tutor is able to sympathize to the struggles the tutee is having.

The primary goal of tutoring has two parts; the first part is to help tutees become independent learners, who are actively engaged in their education and take steps to improve their knowledge and understanding. Tutors help their tutees become independent learners by helping to clarify subject matter and also by exposing them to positive learning behaviors, enthusiasm for the material, study skills, and time management. After productive tutoring, tutees should have a better grasp of the study skills and learning behaviors necessary for academic success.

Every person is not able to get an “A” in every subject. For example, some express themselves easily with words while struggling with the concepts of calculus. The highest grade a student can achieve in a class when applying themselves completely is referred to as their academic potential. While assisting tutees in becoming independent learners, tutors are also helping them to achieve these individual academic potentials; this is the second part of the primary goal of tutoring.

The role of the tutor is easily understood once the definition makes sense. The primary role is to help tutees become independent learners who can achieve their academic potential. This requires a professional learning relationship between tutors and tutees, which means that there are boundaries to what a tutor can do.

The boundaries of the tutor-tutee relationship are academic integrity, professionalism, and progress towards the primary goal.

Academic integrity requires that tutors make sure the work tutees complete is their own. This is not to say that tutors are responsible for spotting plagiarism (however, if they do, they should tell the tutee that it appears plagiarized); rather, tutors are to avoid imposing their own thoughts onto tutees. Two examples below will illustrate the boundary of academic integrity.

Example One - Algebra Homework

A tutor is working with an Algebra tutee. The tutee has asked to go over the homework that was assigned from the last class. The tutor informs her that while they cannot work on the exact questions on the homework, they can complete the similar problems in the book so that the tutee understands how to do her homework assignment.

The tutor ensures that the work the tutee will hand in for grading is original by avoiding working on the graded questions entirely.

Example Two - History Essay

A tutor is working with a history tutee on an essay that is due in a week. The tutee asks the tutor to fact-check her essay. The tutor says that they can go

paragraph-by-paragraph through the paper together. As they do this, the tutee reads her writing aloud. After every few sentences, the tutor asks the tutee to explain what she is saying and why she is saying it. If there is a misunderstanding, the tutor prompts the tutee with further questions and fills in blanks in her understanding where necessary. At the end of the session, the tutor takes a few minutes to direct the tutee to sections relevant to their discussion in the textbook.

The tutor ensures that the work the tutee will hand in for grading is original by correcting the concepts outside the context of the essay. That is, rather than rewriting lines in the paper, the tutor has helped the tutee reach a clearer understanding of the subject material that will allow her to edit her own paper.

The second boundary of the tutor-tutee relationship is professionalism. During sessions, the tutor should be respectful of the tutee and any others who are brought up in the session, including the tutee's instructor. For example, "I didn't like her teaching style when I had her," is disrespectful to the teacher and "This topic is really easy," is belittling to the tutee, even though each can be said without malicious intent. Because of this, tutors must be aware of what they say throughout the session.

What is discussed in sessions is considered confidential, and is shared only between the center's tutors, the tutee that attends the session, and the center's coordinator (depending on the

schooling level and structure of the tutoring center, the tutee's instructor and guardians may be included as well). Part of professionalism is maintaining this confidentiality.

The third boundary is progress towards the primary goal. This means that what is discussed during sessions should help the tutee make progress towards becoming an independent learner. Sometimes a tutee may want to discuss aspects of their personal life or a tutor may begin talking about an unrelated anecdote. It is important that tutors keep sessions on task and do not speak on matters that they are unqualified for (refer students to services that can help them with problems, if the need arises).

Along with the definition of tutoring, these three boundaries - academic integrity, professionalism, and progress towards the primary goal - establish the role of the tutor.

The Tutor and the Teacher

Tutors do not replace instructors. Teachers and professors are considered experts in their fields because of the amount of information they must convey and the level of education they have completed. Because they are experts, instructors have cultivated a very intricate mental network of their subject (Ambrose, 2010, p.43). Given years of study, these mental networks become largely unconscious, allowing for quick access to information. However, because they are largely unconscious, an expert is less likely to be able to outline their cognitive processes when working within their area of expertise (Ericsson & Simon, 1984). Tutors, because they are still students themselves, can more easily access and explain the mental processes they used to learn the subject material and answer problems (Herppich, Wittwer, Nückles, & Renkl, 2010).

When students are first learning a new subject, they are forming their own mental networks. For this reason, the assistance of a tutor who is themselves a student can be a valuable resource. The teacher still remains the authority on the subject material; the tutor is a resource for tutees who need to learn to store and readily access that material.

Tutors are also valuable because they work one-on-one with students. This provides the opportunity for individualized instruction, allowing tutees to receive unique and specific feedback. Compare this to a conventional classroom, where instructors must address the needs of the larger group. For example, think of a high school algebra class. There may be one group of students able to quickly grasp new concepts and another group that requires several classes to be comfortable with the material. Therefore, the tutor can become a resource for clarification in situations when the instructor cannot provide the amount of feedback needed for a particular student.

Tutors are not expected to know the answer to every question that a tutee may ask. Their role is to help their tutees find and store information. Sometimes this may mean using resources such as textbooks or the Internet to find the correct answers. In situations where tutors are unable to assist in finding answers with these resources, it should be suggested that the tutee ask their instructor for clarification on that particular subject.

The main distinction between a tutor and a teacher is authority of knowledge. A teacher or professor has cultivated their understanding of a subject to the point that they have an intricately developed mental network of the discipline. Tutors have not yet formed such a solid network, but do have a firm understanding of what they have learned. Instructors are responsible

for imparting new information to their students, while tutors are a resource for building an understanding of that information. In all cases, the instructor remains the definitive authority on the subject and tutoring does not replace the classroom.

The Term “Tutee”

The term “tutee” has been used throughout this text. This is the correct terminology for students who are coming to tutoring sessions. At first, it may seem that using the word “student” in place of such an awkward-sounding term would be better. However, this would be an incorrect designation of both the tutor and the tutee.

Both tutors and their tutees are students. To label one a student and not the other would be creating an imbalance in authority of knowledge and creating a teacher-student relationship. As outlined above, tutors are not instructors. There is often much about a subject that tutors are still learning. This allows them to provide their tutees with the insight of a peer who has just recently learned the required subject material and performed well in the class. It does not make them a teacher.

As different as the term “tutee” may seem at first, it is an important way to distinguish between the tutor-tutee relationship and the teacher-student relationship.

Step One: Identifying the Need

Before beginning to plan how the tutoring center will run, it is important to clarify what need(s) the center is aiming to address. This will provide a clearer focus for the subsequent steps of the process, especially implementation and evaluation.

Developing a Vision

The first step to this is creating a vision statement for the center. This will make planning and goal creation much easier, as well as provide an image of the future for everyone involved with the center (Lipton, 1996). Mark Lipton, a Professor of Management at the Milano Graduate School of International Affairs and a management consultant to companies such as Google and UNICEF, explains vision as a combination of mission, strategy, and culture. His outline will be used to help plan a vision statement.

When developing the mission aspect of the vision statement, it is important to think about the purpose of creating a tutoring center. Instead of simply considering what will be done in the center, think about why it is important to have one. This focus on purpose will result in an answer that is relatable and motivational.

Once the mission has been created, the next step is to develop the “how” - the strategy for achieving the outlined purpose. For tutoring centers, this may be “by providing academic support,” “by creating a learning community,” or some combination of other strategies. Do not

worry if you have broad statements in your vision statement; they will be broken down into smaller, measurable goals further in this chapter.

The final piece of the vision is culture. This is the compilation of values that gives the purpose and strategy context in people's' lives. Highlighting the values that the center hopes to emphasize - for example, responsibility, respectfulness, and teamwork - provides depth and reach to the vision statement.

The worksheet for creating a vision statement is in Appendix A.

Developing Goals

After creating a vision statement, it is important to narrow it into several goals. These will create measurable attributes for the center that allow for clear evaluation.

Four goal development processes are outlined in this chapter, based on four possible purposes given in a vision statement. Every school/community has unique needs that should be addressed. Do not feel that it is necessary to modify goals to match these exactly; it is more important that the created goals reflect the original vision statement. For example, some schools may have large inequality gaps; a purpose of a center at such a school could be to help close the grade gap.

Consider the following key questions when establishing goals:

1. Who will utilize the center?
2. Why are these students coming to the center?

3. How will the tutoring center help these students reach their goals?

These key questions can have multiple answers. For every answer to question 1, answer questions 2 and 3. This will allow for clear goals that address the various identified needs of the student population. The answer to question 3 will be revised into the center goal. The goals shown in this chapter will expand on this process.

It is important that the goals of the center are S.M.A.R.T. (Specific, Measurable, Attainable, Relevant, and Timely) (Doran, 1981). These should be performance criteria on which data can be collected, measured, and compared to. For most goals, data will need to be collected in the form of a survey. However, there are certain data points (for example, number of appointments) that just need to be tracked.

The rest of the chapter discusses four potential purposes for a tutoring center. Use these as an example for addressing the needs of an individual school or community. Evaluating center performance is discussed in Step Five.

The worksheet for creating goals is in Appendix A.

Academic Potential

One purpose of a center could be to help students reach their academic potential. As discussed in the previous chapter, this refers to helping every student do as well as they possibly can in their tutored course. This would be a good vision for centers who answer the key questions in a way similar to the following:

1. Students who are struggling with concepts and those who are not confident in their work will utilize the center.
2. They are coming to the center to gain a better understanding of the key concepts and/or confidence in their abilities.
3. The center can help these students by focusing on key concepts and by giving feedback that highlights strengths as well as weaknesses.

The answer to question three will be revised into goals.

First, the answer must be changed into statements about what the center, tutors, or staff is going to do. In this example it might be *“Tutors will focus on the tutee’s understanding of the key concepts in the subject,”* and *“Tutors will give feedback that highlights both strengths and weaknesses.”*

Second, these goals need to be given time constraints and measurable attributes. So our goals could be *“Tutees will be satisfied with the tutor’s explanation of the key concepts in the subject 80% of the time,”* and *“Tutees will be satisfied that tutors gave feedback that highlighted both strengths and weaknesses 80% of the time.”* There is a language shift from the previous step to this one. The main reason for this is that surveys will be given to tutees and their responses will be based on their perceptions. The tutor may believe that they are providing feedback and explaining concepts well, but if what she is doing is not getting through to the tutee then a different approach is needed.

Final Goals: Tutees will be satisfied with the tutor’s explanation of the key concepts in the subject 80% of the time time.

Tutees will be satisfied that tutors gave feedback that highlighted both strengths and weaknesses 80% of the time.

After the second step, one set of goals has been created. There will be different sets of goals meant to achieve different aspects of the center's purpose. For example, if all four of the examples in this center were incorporated into the vision statement, there would be four sets of goals.

The goals below will follow the process outlined above.

Study Skills

Another potential purpose of the center could be to teach students good study habits. These include how to take notes, manage time when studying, develop study materials, and memorize material. These centers may answer the key questions in the following way:

1. Students who look at an assignment and do not know where to begin will utilize the center.
2. They are coming to the center to gain a sense of direction when completing their work.
3. The center can help these students by demonstrating study skills that will be helpful with similar assignments in the future.

First, the answer is changed into a statement. *“Tutors will incorporate useful and relevant study skills into sessions so that students are better prepared to complete future assignments.”*

Then, add time constraints and measurable attributes.

Final Goal: Tutees will be satisfied that they have learned study skills useful for future assignments during sessions 80% of the time.

Academic Responsibility

Another possible purpose for a center could be imparting a sense of academic responsibility to students. Academic responsibility means students learning that their actions can have both a positive and a negative impact on their performance in a class. This would be good for centers who answer the key questions in the following way:

1. Students who believe that they can improve their grade through extra help are going to utilize the center.
2. They are coming to the center to receive a better final grade.
3. The center can help these students by showing them that taking positive proactive actions in their education can result in better grades.

First, the answer is changed into a statement. *“Tutors will acknowledge when tutees are acting proactively and help them plan to do so in the future if they are not.”* Then, add time constraints and measurable attributes.

Final Goal: Tutees will be satisfied that their tutor pointed out ways to study 80% of the time.

Learning Community

One last example of a possible purpose for a center is creation of a learning community. This means creating a culture of working collaboratively and independently to better oneself and others. In such a community, learning is not seen as the burden of individuals but the purpose of the group. This would be a good goal for centers who answer the key questions in the following way:

1. Students who feel like there are no resources to help them learn are going to utilize the center.
2. They are coming to the center to try a new resource to help them learn.
3. The center can help these students by remaining available and providing a place where academic conversation and curiosity are fostered and encouraged.

First, the answer is changed into a statement. “*Tutors will be available to students,*” and, “*The center will be a place where academic conversation and curiosity is fostered.*” Then, add time constraints and measurable attributes.

Final Goals: Tutees will be satisfied with tutor availability 80% of the time.

Tutees will feel satisfied that their questions were answered 80% of the time.

Step Two: Developing a Plan

Having developed a vision statement and goals, the next step is to develop a logistical plan for how the center will operate. This will help create a predictive budget and make the process of approaching school administrators simpler.

Tutors

The first step of developing a plan is determining who the tutors will be and how they will be motivated to work at the center.

Many high schools in the United States participate in the National Honor Society (NHS) program. These students are identified as high-performing and are required to complete a set amount of volunteer hours to be official members. Because participation in this program identifies high-performing students and creates a need for volunteer time, utilizing this population as tutors is the easiest way to identify a continuous supply of potential tutors. As a bonus to the center, these tutors can be paid in “volunteer hours,” eliminating the need to find a continuous source of funding.

If the NHS population (or one similar) is not available, then it is best to ask teachers to recommend high-performing students. This will generate a list of students in different subject areas who understand the various concepts. These students can either be motivated with volunteer hours or paid for their time. If the center is going to pay tutors, sources of funding must be identified. In some cases, the school will provide the necessary funding; in others, the

coordinator will have to apply for grants to cover the costs. For either source, a budget must be created detailing how much paying tutors will cost in total.

Once a tutor population is chosen and the decision to pay or not has been made, the coordinator must decide how much the time commitment for tutors will be. An example for a high school would be two hours (or periods) a week for each tutor. If there are around 30 tutors, this is 60 hours of availability a week for potential tutees.

The coordinator should decide in the plan if tutoring will take place before school, during school, and/or after school. It is important to keep in mind many students in this population cannot drive themselves and rely on bus transportation to get to and from school. For this reason, during school hours should be considered to allow for maximum access.

Location

After deciding who tutors will be, it is time to decide where the sessions will take place.

If possible, aim to have a set physical location for the center. For example, a section of the library or a designated classroom. This will be advantageous when trying to establish the center: students will know where they go to schedule sessions and there will be a space dedicated to the mission of the center. If it is not possible to have one concrete location, establish where sessions will be held during different times of the day (e.g. what classrooms are empty, is the cafeteria available, etc.).

When deciding if a space is suitable for holding sessions, consider the following:

- Is there space for the tutor and tutee to sit side-by-side?
- How many sessions could be held at one time?
- Is it accessible for everyone, including students with disabilities?

Scheduling

Scheduling can be done electronically or on paper. Either way, the coordinator must establish a way to keep track of tutor availabilities so that when potential tutees are interested in an appointment they can be matched with an open time slot.

One potential solution that colleges such as Wellesley College (“TutorTrac Login”, 2017) and Boston University (“Learning Center Management Software”, 2017) use is a software called “TutorTrac” that is sold by RedRock Software. While this system is a very powerful solution, it may exceed the budget of the center.

Another potential solution would be the use of spreadsheets through Excel or Google Drive. This would allow for scheduling to be done through an electronic system. Examples of a scheduling system in Excel and another in Google Drive will be given in Appendix A. In one table, tutors availabilities and their tutored subjects would be given. When someone wants to make an appointment, this table could be searched and tutees could be matched accordingly.

A third option is to do everything on paper using a binder system. Have every tutor list their availability in a table that covers a specific range of dates (e.g. one week, one month, etc.). At the top of each page, have the tutor’s subjects listed. Developing a colored tab system that will allow schedulers to open to relevant tutors will make booking appointments easier. This

system required the least amount of technical ability, but the most work when receiving new availabilities from tutors. Therefore, the table provided in the back is meant to be filled out once a month.

Funding

Even if a center decides not to pay its tutors, there may be some need for funding. For example, new tables might be needed or a supervisor may need to be paid.

Begin by making a list of all potential expenses. Include things that seem irrelevant, such as printing and paper.

If this is the case, the best place to search for funds first is the school that the center will be functioning in. Depending on the size of the need, the school may be able to provide enough funds to cover costs. This will be enough in programs that are not paying tutors or creating a new supervisor positions and already have an adequate space for the center.

If there is a larger need, it will become necessary to apply for grants. These can be found at the local, state, and national levels, especially for an educational program. At this point, it is critical to have the previous steps firmly developed. The more one is able to describe the center and its goals, the more likely it is that the committees reading the application will understand the cause. Search for grants online and by asking school board members. One website worth checking is grants.gov (“Home”, 2017). This website searches through federal grant programs.

Identify potential sources for funds and how much would be expected from each source. If a grant is a stretch, mark it as unlikely. Having this list made - in addition to the list of expenses - will increase confidence in the center.

Step 3: Getting Approval

Once a plan has been created, it needs to be brought before the community. Without the backing of school administrators, teachers, faculty, parents, and guardians the center will not be able to flourish. During this stage, the focus needs to be on promotion. Before proceeding with garnering support for the center, be sure that the plan outlined in the last step has a thorough explanation of different goals, measurements, expenses, and source of funds. In many situations, drawing on this will be enough.

Approaching the School Administration

The first person to approach about the program is the principal or a similar school administrator. The support of this person is integral to the success of the center going forward, as a supervisor to faculty and teachers, a spokesperson to the school board, and an authority figure to the community.

It is important to divulge the entire plan to this person. The principal may find certain parts of the plan problematic. At this stage, willingness to compromise will help the center continue moving forward. For example, paying tutors may be seen as unlikely to happen.

Removing this one aspect and replacing it with recognized volunteer hours will make the center more appealing to administration.

Approaching Teachers/Faculty

After getting approval from the school administrator, it is time to talk to the school's teachers and faculty. It is possible that they will see the center as intruding into their responsibilities. Starting a healthy dialogue about the purpose and limits of the center will make them more receptive.

Sending an email with a presentation about the center is probably the most efficient way to reach everyone. If it is possible to organize a brief meeting, it would allow for immediate clarification on any questions and minimize the chances of misunderstanding.

The purpose of this communication is to gain the approval of as many teachers and faculty members as possible. As the people who interact with students on a daily basis, they will either be the biggest supporters of the center or the largest obstacle. It is important that the center is shown to be a tool that benefits them as well as the students who are tutoring or being tutored. Emphasizing the rules of the program and the limits on the role of the tutor in addition to explanation of the goals of the center is the best way to win over teachers and faculty.

Again, flexibility will help the program here. For example, teachers or guidance counselors may want to be told when a student is being tutored. Adding this to the appointment scheduling process will allow for communication between the center and teachers/faculty to be open.

Approaching Parents, Guardians, and the Community

After gaining the support of the school administrator and the teachers/faculty, it is time to introduce the center to the rest of the school community.

If funding from the school board is needed, this is the stage to request it. Having letters of support from faculty and the school administration will increase the likelihood that the request will go through. However, many school districts have limited funds and may not be able to cover the entirety of what is needed. Be sure to have alternative sources of funding (such as grants) that can be applied for.

To reach the school community, hanging posters around the school is generally an effective way of communicating. Be sure the posters include where to go to schedule appointments, when they are available, and that they are free. If it is possible, a letter can be sent home with students explaining the center.

Before reaching out to parents and students, be sure necessary funds have been secured. This means that the center has the funds needed to begin operations. Sometimes there will be a delay because of the grant application processing. Be patient when waiting; it will be better to start the center according to plan than to rush forward and sacrifice parts of it.

Step Four: Implementation

After the center has been approved and funded, it is time to put the plan into action. To do this, the system for scheduling has to be put up, the survey has to be created, and tutors have

to be trained. Once again, the foundation put together in the previous steps will help this process to go smoothly.

Scheduling and Survey

First the scheduling system and survey have to be created. As always, remember to be flexible and patient with the implementation. For different reasons, the plan that was decided on may not work perfectly and changes may have to be made to create the ideal system. Be sure to test the system by having people submit fake availabilities and appointments.

For the survey, use the goals that were created in Step One to create survey questions. To ensure that collected data is comparable, create questions that can be answered on a Likert-type scale (ie 1 to 5). For example, if the goal “*Tutees will be satisfied that they have learned study skills useful for future assignments during sessions 80% of the time*” was chosen in Step One, questions such as “I learned useful study skills” or “I feel more confident about future assignments” could be included on the survey with a Likert-type scale ranging from “I strongly agree” to “I strongly disagree”. When choosing a Likert-type scale, there is a question of whether it is better to have an odd number of options - and therefore a neutral option - or an even number, which eliminates the neutral. Some researchers believe that having the neutral option reduces response bias, as neutral parties are not forced to have an opinion on the topic (Fernandes & Randall, 1991). However, there is a great deal of argument over whether a survey should include the neutral point; while the decision is up to the researcher, it has a significant effect on results (Garland, 1991). When designing the survey, the researcher needs to ask herself if she wants to force participants to have an opinion or if neutral will be considered an option.

Training Tutors

The next step is training tutors. There are numerous training topics that are beneficial; some are outlined below, but there are many more possibilities.

Definition of Tutoring/Role

A definition of tutoring was given earlier. To summarize, a tutor is a trained person who, in a calm and structured learning environment, helps peers - one-on-one or in small groups - to become independent learners who have achieved their academic potentials. The primary role of a tutor is to help tutees become independent learners who can achieve their academic potential, while adhering to the boundaries of academic integrity, professionalism, and progress towards the primary goal of creating independent learners.

A potential activity for teaching this topic is to have tutors brainstorm together about what a tutor is and what a tutor does. Once they have shared their ideas, the presenter can give the full definition. This way it is easy to see if the tutors already understand the definition and role or if further clarification is needed.

When surveyed, many of the tutors at Assumption College identified helping students to be independent learners as a skill that they developed over time. One tutor who had been tutoring for six semesters said that she learned to ask “more higher order thinking questions that will help [the tutee] figure out the answer on their own, rather than leading them to the answer myself.” Helping the student to come to understanding on their own is extremely important, but as another tutor said about her early tutoring, “At the beginning I would try to help them too much.” Tutors

will be eager to help their tutees learn the material, but emphasize to them that they are there to spur the tutee's understanding by asking questions and offering explanations, not to make sure that every question is answered correctly. Sometimes there will be awkward silences and tutees may even be frustrated that their knowledge is being probed, but this technique is what pushes them towards the primary goal.

Beginning and Ending a Tutoring Session

When beginning a tutoring session, it is important to make the tutee feel comfortable. This can be done using techniques similar to those used when beginning an interview. By using engaging body language and asking questions that show interest in the individual, tutors can establish a comfortable environment from the beginning of the session. The tutor should ask the tutee what she would like to work on. In some cases, a tutee may not be able to pin down particular topics that they need help on. If this happens, the two should go through the tutee's notes or book in order to find relevant topics and begin work. If the tutor notices that the tutee struggles with a particular topic more than another - or when the tutee says they want to work on a particular topic - then a firmer agenda can be set.

An agenda does not need to be written down, but it should be verbally stated. In this case, an agenda is just a way for the tutor to communicate to the tutee what a realistic goal would be for the session. For example, it may be "let's try to get through a few of the problems in this topic first and if we have time then we can do the next section." If the tutee agrees, then the session can proceed.

When ending a session, it is important to reinforce the progress that was made and give tutees options for what to do next. For example, a writing tutor may point out that a thesis has been chosen and the paper outlined; going forward, she might recommend that the tutee finish writing the paper and then read it over to themselves out loud to check for grammatical errors. Tutors should try to pick at least one thing every session to congratulate their tutees on, even if it is as simple as “You asked really good questions,” or “You worked really hard.”

A potential activity for this topic is role playing together. Randomly pair tutors together and give the one who will be playing the tutee a slip of paper that says how they are feeling, their grade, their major, and what they need to work on with their tutor. The person playing the tutor then has two minutes to discover the information on the paper by engaging the tutee in natural conversation. When everyone has had a chance to be both the tutor and the tutee, discuss the thoughts and feelings that came up and reinforce why it is so important to make tutees feel welcome and comfortable early on in the session.

Learning Theory

The topic of learning theory is extensive. For the purposes of tutoring, however, a basic understanding of constructivist theory and mindset theory may be useful.

The general idea of constructivist theory is that each learner builds meaning for herself as she learns. This means that the teacher has to focus on the learner as opposed to the lesson and that the new material has to be attached to preexisting knowledge in the learner’s mind (Hein, 1991). This style of learning can be supported by modeling, coaching, and scaffolding, which David Jonassen outlines (Jonassen, 1999). Tutors can model by explaining their own approaches

to a problem or prompt (cognitive modeling) or by showing the skills needed to reach a solution (behavioral modeling). Coaching takes place when tutors provide feedback to tutees about their performance and when they ask the tutee to reflect on what they have done with a prompt such as “Can you explain to me what you did here?” Finally, scaffolding refers to working up to certain point. This may mean that the tutor provides an easier example than the problem that was brought in for the tutee to practice first or that other skills are practiced first. For example, a tutee may come in for help with an essay and the tutor notices that they make the same grammatical error frequently; a segue to discuss that particular grammatical structure may be more beneficial in the long run than continued focus on the essay.

Mindset theory addresses how the way students view their own ability to learn impacts their academic achievements (Yeager & Dweck, 2012). For example, if a learner performs poorly on a math test and begins to feel like she is “not a math person,” then her ability to perform well on tests in the future will be affected. Under this theory, tutoring is not just a tool for instruction, but also for psychological intervention. Because tutors are able to build a trusting relationship with their tutee, they are in a position to “redirect their construals of academic difficulty as challenges to be met, not evidence of fixed inability” (Yeager, et. al, 2016). One suggestion for doing this is to teach tutors to talk about their own struggles with material and to always point out when a tutee has made gains with the material.

Theory can be a very dense subject to explain to tutors. To be more engaging, provide examples of how each theory affects tutoring, as done in the above paragraphs. By making the theoretical concepts more accessible, it is more likely that the tutors will retain and use them. Ask tutors to talk about a time that they struggled with a subject and how they learned to work

through it. In these instances, they had to be more aware of their learning and it will provide a better basis of understanding than thinking about subjects they learn easily.

Working with Difficult Students

When a tutee comes in, she may be under a lot of stress that causes aggressiveness. In these cases, it is important that tutors are able to be assertive and end the session. These situations can be handled using assertive communication. Components of assertive communication are eye contact, tone of voice, stance, facial expression, timing, and content of message (Pipas & Jaradat, 2010). While maintaining eye contact, keep tone of voice, stance, and facial expression the same as when speaking in normal conversation. Do not interrupt the other person to give the message, but wait for a natural opportunity to speak. Finally, content of message requires that what is said does not blame the other person or accept all responsibility, but gets across clearly what has to happen next.

Training tutors to be assertive can be done using practice conversations, or even just by giving a blanket statement that can be used when tutees are over-aggressive such as “I don’t think we are going to make any more progress today. I want to schedule you an appointment for a different day.”

Communication and Active Listening

Communication is a twofold process that requires listening and speaking. In order to communicate in an effective way, tutors must understand the components of active listening, which will help them to construct direct messages.

“To listen is not just to hear; it is the active construction of meaning from all the signals - verbal and nonverbal - a speaker is sending” (Hennings, 1992, p.3). To be an active listener, tutors must be focused on what a tutee is saying. This means not focusing on the next step of a problem, but on the understanding of the problem-solver. By asking prompting questions, understanding can be probed or ideas created in the mind of the tutee. This is preferable to giving answers because it allows for the tutee to construct their own knowledge structure, which follows constructivist theory. Active listening also ensures that a tutoring session is a dialogue and not a lecture, which helps reinforce the balance between the tutor and tutee.

In addition to making sure tutor’s respond to the tutee and do not overpower the conversation with their own ideas, it is also important that tutors are aware of tone and body language. Sometimes, a tutee will guess at what a tutor wants to hear, instead of admitting that they do not understand or need clarification. They may respond to a question in a nervous, unsure tone or not make eye contact when responding. While every person expresses themselves differently, tutors should look for changes in tone or body language, as this can indicate a shift in comfort or understanding.

Study Skills

One of the most important study skills is note-taking. Being a strong note-taker is helpful no matter what subject a tutor works in. Note-taking is recognized to facilitate learning through encoding and artifact. Because taking notes requires the student to identify important information, she must process the material before writing it down, which is encoding. Also,

note-taking provides students with a resource for review, or an external artifact (Bauer & Kenneth, 2007).

Students who struggle with taking notes usually have trouble identifying what in the lecture qualifies as “important information.” Teaching students how to edit their notes after classes by making them more succinct and neat will provide them with a more valuable tool for review. Tutors can also help tutees learn to take notes from their textbooks. By learning to identify major ideas from the written passages, the tutees can work on their ability to identify important information in lectures.

In addition to note-taking, learning how to study for different classes is also important. Tutors will be able to recommend appropriate study methods for the subject that they tutor in. Flashcards are a helpful tool in all disciplines, as all classes require the memorization of terms or formulas. Flashcards are most effective when studied in large stacks over a longer period of time (Kornell, 2009). This means that tutees should be encouraged to mix all chapters or sections together when studying and that they should be studying well in advance of the exam. Other study methods may be needed depending on the subject. For example, math courses require that the student practices different types of problems, but classes such as psychology require thinking of examples that revolve around different theories. Tutors should be encouraged to explain how they study to their tutees, and even to help them prepare a study schedule.

Awareness and Inclusiveness

Because of the diversity of the student body, it is important for tutors to be respectful of differences in background or privilege that may exist between themselves and their tutees. These

differences can be in gender, race, age, disability, or economic class. Respect can be shown in the language tutors use.

Firstly, tutors should be taught to use person-first terminology. This just means stating the disability or stigma after acknowledging the person (e.g. a person who is blind or a person who lives in poverty). This promotes recognizing that a person is separate from these qualifying statements and will help to maintain a positive tutoring environment.

Secondly, tutors should never make assumptions about home life or access to resources. This means that if a tutee says they cannot, for example, access a website at home, the tutor should be prepared to offer a different resource that does not require the internet. Understanding that differences in background can lead to varied levels of preparedness in academics will help tutors to be more helpful in their recommendations. Remember that the goal of tutoring is to help students become independent learners, so tutors need to recommend resources that the student will have access to.

Step Five: Evaluation

Once the center is in place and running, it is time to look at survey results to see if the center is achieving the goals set forth in Step One. Because the survey questions were designed to align specifically with different goals, this should be a matter of pulling up a summary of survey results. For example, a potential goal given in Step One was “*Tutees will be satisfied with the tutor’s explanation of the key concepts in the subject 80% of the time.*” A possible survey question aligned with this goal may have been “I was satisfied with my tutor’s explanations” along with a Likert scale. Assessing how the goal is being met involves measuring how many

respondents “Strongly Agree” or “Agree” against how many “Disagree” or “Strongly Disagree.” If eighty percent are responding that they agree with the statement, but the other twenty percent are saying they strongly disagree, then there is a problem that needs to be fixed to bring up the bottom responders to “Disagree” or “Agree” (or “Neutral” if this is an included option).

If the goals of the center are not being met, it is time for more in-depth conversation with tutors, tutees, and faculty. Each of these groups may be able to provide separate input into what is preventing the center from meeting its goals. As always, be flexible and receptive. Tutoring centers have to evolve with the learning community they are supporting. No system will ever be perfect at achieving its goals. Whatever the results, be sure to communicate findings to tutors, faculty, and the community. If the survey results are not good, accompany them with what is being done to improve.

In addition to providing a basis for changes in the program, this data will also be helpful in obtaining funding, if this is needed. Keeping track of how many students use the center and the most tutored subjects will be helpful if grants are specified for STEM (Science, Technology, Engineering, Math) subjects or if the program has to help a minimum percentage of the school’s population.

Overall, the center should be in place to help students to see learning as an enjoyable experience that everyone can be a part of. The tutoring center will hopefully impart the skills and enthusiasm needed to continue a life of learning.

Appendix A

Developing a Vision

Mission

Why would a tutoring center be beneficial to your school/community?

Strategy

How will your center provide the benefits outlined above?

Culture

What values will the center emphasize in order to support the benefits outlined above?

Scheduling in Excel

	A	B	C	D	E	F	G
1	Tutor Name	Subjects	Monday, Jan 1	Tuesday, Jan 2	Wednesday, Jan 3	Thursday, Jan 4	Friday, Jan 5
2	(Tutor Name)	Math, Chemistry, Biology	1 PM to 2 PM		2:30 PM to 3:30 PM		
3	(Tutor Name)	English		1:30 PM to 3:30 PM			
4	(Tutor Name)	History, English				2:30 PM to 3:30 PM	7 AM to 8 AM
5							
6							
7							
8							
9							

The above format would be a possible way to keep track of tutor availabilities from week to week. To minimize having to edit the schedule, encourage tutors to commit to the same hours every week. At the beginning of the year, create sheets for every week of the school year in the same Excel document. This can be done by creating copies of the original sheet and changing the dates.

	A	B	C	D	E	F	G
1	Tutor Name	Subjects	Monday, Jan 1	Tuesday, Jan 2	Wednesday, Jan 3	Thursday, Jan 4	Friday, Jan 5
2	(Tutor Name)	Math, Chemistry, Biology	1 PM to 2 PM		2:30 PM to 3:30 PM		
3	(Tutor Name)	English		1:30 PM to 3:30 PM <i>(Tutee Name)</i>			
4	(Tutor Name)	History, English				2:30 PM to 3:30 PM	7 AM to 8 AM
5							
6							

Once there is a sheet for every week, appointments can be made by editing the document as above. When a potential tutee comes in for an appointment, ask her first what subject she needs help with. Using a filter on “Subjects,” enter the desired subject into the search bar that

appears and click “Select All Search Results” twice. This leaves only tutors for that subject. Ask the tutee what her availability for the week is and find a matching tutor. When a date and time are agreed on, change the cell color and enter the tutee’s name. If tutors are only required to come in when they have appointments, contact the tutor to let her know when the appointment is.

The Excel method is beneficial because availabilities are stored in a digital system, making it easier to search for relevant tutors. Also, Excel does not rely on an internet connection to save information. However, it must be stored and saved on one computer; frequent saves are necessary to preserve the information.

Scheduling in Google Drive

Scheduling in Google Drive utilizes “Sheets.” The spreadsheet will be identical to the one shown in the previous section on Excel. It will be necessary to also duplicate the sheet for each week.

Once there is a sheet for every week, appointments can be made by editing the document similarly to in Excel. When a potential tutee comes in for an appointment, ask her first what subject she needs help with. Using a filter on “Subjects,” click “Clear” which unselects all tutors. Then, type the desired subject into the search bar and click “Select All” followed by “OK.” This leaves only tutors for that subject. Ask the tutee what her availability for the week is and find a matching tutor. When a date and time are agreed on, change the cell color and enter the tutee’s name. If tutors are only required to come in when they have appointments, contact the tutor to let her know when the appointment is.

Like the Excel method, the Google Drive method is beneficial because availabilities are stored in a digital system, making it easier to search for relevant tutors. Unlike Excel, Google Drive can be accessed on multiple computers and saves automatically. However, it requires a stable internet connection to function.

Scheduling on Paper

A similar manual system can be used. Unlike with an electronic system, a manual system cannot be easily searched for relevant tutors. Therefore, it is important to have schedules sorted in a binder based on the tutored subjects. The same method for making an appointment (highlighting in the box and writing the tutee's name) will still work.

A manual system may be beneficial because it requires no computer skills. There is no need for internet access or saving. However, more organization is needed for this method because of the difficulty in searching.

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