

## **Memorandum of Transmittal**

To: Eric Prater

From: Jonathan Schreiber

Date: March 20, 2019

Subject: Recommendation Report on youth misuse and overuse of technology

Attached is the recommendation report on counteracting youth reliance on technology. Policies and programs that the San Luis Coastal Unified School District can implement were investigated.

### **Recommendations**

This report analyzes three possible solutions to help youth cut back on technology use. The recommendations are as follows.

- The first recommendation is to set strict limits and guidelines in schools dictating when it is appropriate to use technology and when it is not.
- The second recommendation is to provide a mandatory digital citizenship class for all students, covering benefits and dangers of technology, and how to use it responsibly.
- The third recommendation is to provide mindfulness and meditation training to all students, to increase mindfulness and mental health.

### **Methods**

In order to gather information on such a complex issue, a wide array of sources were analyzed.

These included:

- Interviews with school administrators, a social media consultant, and the local representative for Transcendental Meditation
- Studies
- Online articles and websites

### **Criteria**

The recommendations I determined were analyzed through the following criteria, which was developed through a synthesis of information acquired during my interviews.

- Student Awareness: Are students aware of the benefits and dangers of technology?
- Number of Issues: How many issues do the schools have to deal with in regards to technology?
- Student Reception: Are students prone to disregard programs or information?
- Logistics: Will the solution be easy to implement? Will schools have the resources and money?

### **Final Recommendation**

I recommend that the San Luis Coastal School District provide digital citizenship classes coupled with Transcendental Meditation training for all students.

Thank you for your consideration of this report on how to counteract youth reliance on technology. If you have any questions or concerns about anything encountered in this report, you can reach me at jschre01@calpoly.edu.



# RECOMMENDATION REPORT: COUNTERACTING THE RELIANCE YOUTH HAVE ON TECHNOLOGY

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Prepared For: Eric Prater, Superintendent of San Luis  
Coastal Unified School District

Date Submitted: March 20, 2019

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# **Introduction**

This recommendation report analyzes possible courses of action the San Luis Coastal School District can take to counteract the reliance that youth have on technology. The purpose of this report is to determine the solution that will have the biggest impact on students.

## **Background**

Technology is a powerful tool with the potential to improve the lives of future generations. However, if it is used incorrectly it can be detrimental to mental health, cognitive development, and social awareness. Studies have shown that too much technology use can impact a person on affective, cognitive, and behavioral levels. Some examples of these include higher stress levels, decreases in emotional connection and self-esteem, attention fragmentation, erosion of empathy, an inability to set boundaries, and a need for immediate gratification. Many of today's youth have no perspective of what the world was like before the digital age, hence they believe that it is the norm to constantly be on their device, and to have all of their problems solved instantly. Therefore, it is up to schools and parents to spread awareness on how to use technology responsibly, and to help youth develop an awareness of their own habits around technology. [1]

The San Luis Coastal School District is no exception to this issue. Both John Calandro (principal of Laguna Middle School) and Nick Frost (an assistant principal of San Luis Obispo High School) confirmed that youth misuse and overuse of technology is a legitimate problem in schools [2][3]. In addition, they both believe that the problem is getting worse as technology improves [2][3]. Although both schools already have technology policies in place, additional programs or modifications to the current programs should be investigated given the persistence of the issue.

## **Sources**

In order to fully understand the issue and develop the best recommendation possible, I gathered a wide array of sources to analyze. These included interviews with John Calandro, Nick Frost, Eileen Calandro, and John Freeman. In addition, I found several online studies that investigated the effects of digital media on mental health, the effects of meditation on mental health, and the effects of mindfulness and digital citizenship training on students. Finally, I found websites with general information on transcendental meditation, the effects of overusing technology, and ideas on what teachers should be doing for their students.

## **Scope**

This report addresses the technology needs of youth, and how schools can address them. Although the needs of adults and older adults are not specifically addressed in this report, it was hard to avoid learning about their needs as well while conducting my research; many of the same basic strategies and ideas can be applied. In addition, although many of these issues for youth can be addressed in settings outside of school, this report only focuses on what schools can do, to ensure the maximum number of students being impacted.

Research for this report was focused on the following criteria:

- Student Awareness: Are students aware of the benefits and dangers of technology? Are they mindful of how much they rely on technology?
- Number of Issues: How many technology issues do the schools have to deal with? Has that number improved based on the implementation of one solution?
- Student Reception: Are students prone to disregard programs and information or will they engage?
- Logistics: Will the solution be easy to implement? Will schools have the resources and money?

## **Recommendations**

In order to help youth overcome their reliance on technology and to increase awareness surrounding technology, three potential recommendations were developed. Each of the recommendations takes a different approach to the problem. The first recommendation is to set strict limits and guidelines in schools dictating when it is appropriate to use technology and when it is not, in hopes of creating a distraction free learning space. The second recommendation is to provide a mandatory digital citizenship class for all students. The class would cover the potential benefits and dangers of technology, and how to use it responsibly. The third recommendation is to provide mindfulness and meditation training to all students, to increase mindfulness and mental health. In time, it will hopefully alleviate the nagging feeling of needing to constantly be “connected” through technology.

## **Organization**

After the introduction, this report will enter the methods section, which will provide information regarding the sources used during research. Following this will be the results section, which will reveal the information that each source provided. Then will come the conclusion, which will analyze the information gathered to make the best recommendation possible, based on the criteria. Finally, I will provide my final recommendation in the final recommendation section.

## **Significant Findings**

According to a study conducted by the Kaiser Family Foundation, youth ages 8-18 spend an average of 7.5 hours a day on technology [1].

## **Key Terms**

Throughout the report, Transcendental Meditation is abbreviated as TM, Emotional Intelligence is abbreviated as EQ, Mindfulness Based Intervention is abbreviated as MBI.

## **Methods**

The following section highlights the sources I used to conduct my research.

### **Interviews**

I developed my criteria by synthesizing the information from each of the four interviews conducted. These interviews also broadened my perspective and helped me understand the feasibility of my recommendations.

#### **Interview with Eileen Calandro**

Eileen Calandro is a Professional Listener & Talker, and Social Media Strategist & Instructor for Calandro Consulting. Six years ago, she founded Calandro Consulting to address parent's lack of knowledge regarding their children's online decisions. She teaches classes for parents to educate them on social media, works with teachers on how to deal with technology in classrooms, and runs assemblies for students on how to use technology to their advantage. [4]

#### **Interview with John Calandro**

John Calandro is the principal of Laguna Middle School in San Luis Obispo, California. He has worked there for almost six years, previously serving as the principal of Santa Lucia Middle School in Cambria. As the primary administrator of a middle school, Mr. Calandro not only understands how the mind of a middle schooler operates but was also able to comment on the feasibility of the recommendations I proposed. [2]

#### **Interview with Nick Frost**

Nick Frost is an assistant principal for San Luis Obispo High School in San Luis Obispo, California. During his eight years at the school, he has already made an impact, helping to alleviate attendance and tardiness issues. Given that he works closely with the principal and other key administrators, he had a clear understanding on the logistics and feasibility of the possible solutions I proposed. [3]

#### **Interview with John Freeman**

John Freeman is the local Transcendental Meditation (TM) representative for San Luis Obispo. The first time he meditated was when he was sixteen years old, and it changed his life. At that moment he knew he wanted to become an instructor and has now been teaching meditation for 41 years. As a representative for TM, he understands what the practice actually does to the brain, and just how beneficial it can be. In addition, he helped me understand the logistics of teaching TM in schools. [5]



## **Studies**

The following studies helped me to determine how each of my recommendations fit into my criteria.

### **Mental Health Concerns in the Digital Age**

This study analyzed the effect of technology on mental health through the synthesis of numerous sources. In addition, it included a section highlighting treatment considerations, which were considered during the development and analysis of my recommendations. [1]

### **Mindfulness-Based Interventions in Schools – A Systematic Review and Meta-Analysis**

This study was a compilation of 24 identified and 13 published studies on the execution, reception, and effectiveness of mindfulness-based interventions in schools. [6]

### **Effects of Transcendental Meditation on Mental Health: A Before-After Study**

This study specifically investigated TM, in order to determine if it actually improves the well-being of those who practice it. In addition, it compared TM to other meditation techniques. [7]

## **Online Articles and Websites**

The following articles and websites helped me weigh my recommendations against my criteria and helped me to determine the logistics of each implementation.

### **Educational Leadership in an Online World: Connecting Students to Technology Responsibly, Safely, and Ethically**

This article reinforced the potential dangers of technology if it is used incorrectly and highlighted the attributes of digital citizenship according to Ribble's 2<sup>nd</sup> edition of "Digital Citizenship in Schools". [8]

### **Technology Addiction (And Why You Should Have a Tech Free Classroom)**

This article is written by Alanna Harvey, the co-founder and marketing director of Flipd, a digital wellness company. She has studied the relationship students have with technology in depth for over three years. In this article, she reinforces issues with technology in schools and provides teachers with seven recommendations to foster an authentic learning experience. [9]

**Transcendental Meditation**

The TM website provided me with information about the effects of TM through references and studies, helped me understand the logistics of implementation, and connected me to the local TM representative, John Freeman. [10]

**The David Lynch Foundation**

Recommended to me by John Freeman, the David Lynch Foundation is a center for health and wellness, working to heal traumatic stress and increase performance of at-risk populations. In addition, this foundation is at the forefront of introducing TM into schools. [11]

## Results

The following section describes the information gathered from each source referenced in the Methods section.

### **Interview with Eileen Calandro**

Throughout our interview, one idea that Mrs. Calandro continued to reiterate is the philosophy that knowledge is power. This is a concept that she applies to all aspects of her business. Whether she is working with parents, students, or teachers, she reinforces this idea so that her clients understand how important it is to continue learning about technology. She explained to me that many parents don't think that they have the right to interfere with their children's social media activities because they don't understand digital media themselves. This is where Calandro Consulting comes in to the picture; she provides parents with the knowledge and confidence to set guidelines for their children and encourages them to have conversations about positive technology use. One analogy she likes to talk to parents about is "digital nutrition". Most people are cognizant about what they put into their bodies; too much sugar and fat is not a healthy habit whereas eating vegetables, vitamins, and protein can improve someone's health. She compared this to digital media; most people are not aware of what they are putting into their minds on a daily basis. However, if people were, there would be no reason to constantly consume "junk" like Snapchat and Instagram all the time. At the same time, like food, technology can improve quality of life if the right digital media is "consumed". This idea that technology can be harnessed for good is what Mrs. Calandro tends to focus on when giving presentations to students. [4]

When I asked Mrs. Calandro about her opinion on my recommendation of digital citizenship classes in schools, she thought that it could definitely be a viable solution, given her "knowledge is power" philosophy. She noted that it would be important to not only cover the dangers of technology, but to include how technology can be harnessed for good. In addition, she stated that it would be important to cover what technology is doing to the brain on a chemical level, as it is literally remapping our brains. She brought up this same idea of technology remapping our brains when I introduced the recommendation of teaching meditation. In basic terms, digital media is making our minds "there" instead of "here". She believes meditation is an absolutely wonderful tool to alleviate this constant need to be somewhere else; she has been meditating since 8<sup>th</sup> grade. On top of that, she told me that meditation can help people to find balance and realize what is going on in their minds. [4]

### **Interview with John Calandro**

My first goal in interviewing John Calandro was to understand his perspective on the youth technology challenge. Unsurprisingly, he confirmed that overuse and misuse of technology is a legitimate problem at Laguna Middle School. He characterized “misuse” as overuse, usage at the wrong times, and the supplanting of other activities with technology. Therefore, he explained to me that the school currently has a ban on personal technology devices. The technology ban includes not being allowed to use technology in class without teacher approval, not being able to use technology or wear headphones in the hallways and during lunch, and not being allowed to use technology in the library. This policy has been in place for a while, however the enforcement this year is the strictest it has ever been. He said that usually the school measures their program’s effectiveness based on the number of issues they have to deal with.

Therefore, he believes that stricter enforcement of technology is having a positive effect on students, because the school is aware of fewer social media blowups than there has been in the past. In addition, he has observed more social interaction this year, and he believes that it may actually be a sense of relief for students to have a break from their phones. However, he also admitted that he believes the problem is growing worse as technology continues to improve. He attributed that mostly to software developers mastering design in order to promote constant use (ex. Snapchat with their streaks, stories, featured stories, and snap maps). In addition, he estimated that 50% of students at Laguna Middle School own a cell phone, and of those who own one, only about 10% use them responsibly. [2]

When I proposed my recommendations to Mr. Calandro, I learned that Laguna Middle School already has versions of them in place. In regard to the digital citizenship class, he informed me that digital citizenship is part of the health requirement for the state. However, in reality the threshold is pretty minimal. In his opinion, it is something that needs to be taught at an early age, and revisited time and time again, each time in a slightly different format. Therefore, he thinks that a yearlong class would not be effective because students would not be engaged for an entire year, and there wouldn’t be enough content to fill a yearlong class. However, he said that a more thorough class could be beneficial, especially if it enforced that there are dangers and benefits to technology, and that it can be a tool if used in the right ways. When I asked him about meditation, he said that it is also taught in health, and some teachers will sometimes use a brief guided meditation to begin class. He said that mindfulness is huge in education right now, and that although meditation does not directly solve issues with technology, it helps point out that there was a problem in the first place. [2]

### **Interview with Nick Frost**

Much like my interview with John Calandro, my initial goal in interviewing Nick Frost was to understand his perspective on the issue. He told me that if you took a snapshot of kids at lunch, about 75-80% of them would have a phone in their hand. In addition, he noted that he has “absolutely” seen the problem worsen during his eight years at the school. San Luis Obispo High School has an “off and away” policy in class, which means just that; phones must be turned off and be out of sight. However, he realizes that this policy is only as effective as the teacher that enforces it, as some teachers aren’t as strict as others. In addition, when teachers let students use technology in class for educational purposes, it is easy for them to become distracted by social media, text messages, and other apps and games. In reality, teachers can handle technology use however they want. This makes it easy for students to take advantage of the system and makes it hard for the school to enforce a consistent cell phone policy. When I asked him how he analyzes whether their program is successful, he told me they measure it by the number of issues they have to deal with (Ex. Number of phones brought to office). [3]

When I asked him about the possibility of adding a class focused on digital citizenship, he told me that it is part of the health requirement that is covered in health classes. In addition, he warned me that a class would be difficult to implement, because of the questions surrounding it. What grade would you teach it to? Would it be a one-time class or something that is constantly reinforced? In his opinion, the only way that it would be effective would be if there was a homeroom or advisory built into the schedule that could be used to cover digital citizenship and other social issues. When I asked him about meditation, he told me that it was something that neither him nor the school had ever considered. However, he doesn’t think it would be a good idea because meditation is not something that can be forced. Although he did admit that he could see how it could be beneficial to mental health, he explained that the school does not have the resources to make meditation a priority right now. [3]

### **Interview with John Freeman**

My main goal in this interview was to gather information on the logistics of implementing TM in schools, and to understand whether or not it was successful. However, before we discussed TM in schools, he talked about TM in general, and how it can help alleviate misuse and overuse of technology. He informed me that mindfulness is the expression of a healthy human being, and it usually isn’t something that can be forced. What is great about TM is that “spontaneous mindfulness” is achieved. What this means is that those who practice it achieve mindfulness completely effortlessly; TM completely purifies the core. Regarding my report, he explained that I can’t just “diss” technology, because technology is filling most people’s sense of emptiness. In the absence of

technology, people would simply turn to something else to fill their emptiness, whether it be sex, drugs, alcohol, or other forms of “satisfaction”. The reason that TM is such an effective solution to counteract misuse of technology is because it fills the sense of emptiness. TM accomplishes internal mechanisms that release stress and provide an absolute experience, cutting to the core neurology and biology of a perfect human. [5]

TM has been implemented in many schools. Every student is trained individually and undergoes a four-day program. In order to train every student, a group of teachers are usually brought in. The class begins with an introductory meeting in an assembly format before students begin breaking off and learning individually. The same group then comes back each of the next three days to make sure that they have the technique down. One of the reasons that the class is four days long is so that the teachers can explain what is actually happening in the brain during meditation. Before I talked to John, one of my concerns about teaching meditation in schools was that it would not receive great reception. Having experienced both middle school and high school, I assumed that many would disregard meditation as “not cool” and consequently fail to fully engage. However, John told me that they first started teaching TM in middle schools, and it is practiced by millions of kids in middle school and high school. Not only that, but he has seen firsthand kids who are “too cool for school” completely transform their lives because of TM. This is because it works on everyone, and helps students make the realization that they can create their own destiny. My biggest concern with implementing in the San Luis Coastal School District was that they would not have the money or resources, especially after my conversation with Nick Frost. However, John explained to me that when TM is taught in schools, it is usually paid for by external organizations. He referred me the David Lynch Foundation, whose mission is to bring TM to student populations at high risk for mental health issues. [5]

### **Mental Health Concerns in the Digital Age**

Technology has significant effects on mental health, and these issues are only becoming more prevalent as technology continues to push personal and professional limits. Too much technology use can impact a person on affective, cognitive, and behavioral levels. Some examples of these impacts are stress, decreased emotional connection, decreased self-esteem, attention fragmentation, erosion of empathy, inability to set boundaries, increased need for immediate gratification, and numerous DSM-5 disorders. However, given that none of these examples are black and white issues, more research still needs to be done. In addition, diagnosing someone with an “Internet addiction” is problematic because it can be difficult to separate addictive behaviors from legitimate uses of technology. With that being said, the Kaiser Family Foundation found that youth ages 8-18 spend an average of 7 ½ hours a day on technology. What’s even more alarming is that this study was conducted almost ten

years ago, before apps like “Snapchat” and “Instagram” blew up. Therefore, it is no surprise that counselors are reporting an increasing number of teenagers and young adults suffering from poor social skills, anxiety, ADHD, and depression. On top of that, EQ traits like impulse control, delayed gratification, conflict resolution, cooperation, self-motivation, and empathy have deteriorated. Cognitive behavioral strategies were cited as the most effective of the treatment considerations. These techniques allow their clients to increase their awareness on the impact technology has on their life. Individual counseling and media literacy programs are also promising solutions. However, expanding awareness around technology use is cited as the most important treatment characteristic. [1]

### **Mindfulness-Based Interventions in Schools – A Systematic Review and Meta-Analysis**

Twenty-four studies were analyzed to determine the effectiveness of MBI’s in schools. Of the studies, eight were implemented in elementary schools, two in middle schools, and fourteen in high schools. All of the MBI’s were conducted by professional trainers. The studies were measured by cognitive performance, emotional problems, stress and coping, resilience, and third person ratings. A third of the studies have information about acceptability. Of students, 81% rated the sessions as useful, 83% said they were satisfying, and 75% thought they should have lasted longer and planned to continue practicing. Only 5% of students thought they were too long. Overall, the studies found that MBI’s in schools can increase the cognitive capacity for learning and attending. In addition, studies with more training or studies that included home practicing techniques had stronger effects than the rest. [6]

### **Effects of Transcendental Meditation on Mental Health: A Before-After Study**

This 12-week study investigated the effects of TM. They found that TM can improve mental health. Scores on the General Health Questionnaire improved significantly after TM was introduced, mainly in the areas of anxiety and somatization. In addition, they found that the effects transcend age, gender, and marital status. Reviews with a large number of studies show that TM has more of an effect on mental health than any other form of meditation. This is because the body enters a state of “restful alertness”. However, due to the complex nature of mental health issues, causality between TM and good mental health cannot be proven, only correlation can. [7]

## **Educational Leadership in an Online World: Connecting Students to Technology Responsibly, Safely, and Ethically**

In 2009, the International Society for Technology in Education updated the National Education Technology Standards, and published Ribble's 2<sup>nd</sup> edition of "Digital Citizenship in Schools". Included in the text is the "Digital Citizenship Model", which highlights nine attributes of a good digital citizen, broken into three categories. The following reviews the nine techniques.

### **Respect Yourself/Others**

- Digital Etiquette: electronic standards of conduct/procedure
- Digital Access: full electronic participation in society
- Digital Law: responsibility for actions/deeds online

### **Educate Yourself**

- Digital Communication: electronic exchange of information
- Digital Literacy: process of teaching/learning about technology
- Digital Commerce: electronic buying/selling of goods

### **Protect Yourself**

- Digital Rights/Responsibilities: freedoms extended to those in the digital world
- Digital Safety: electronic precautions to guarantee safety
- Digital Health/Welfare: physical/psychological well-being

The "Digital Citizenship Model" provides educators with a curriculum of what should be covered in a digital citizenship class and helps students use technology as a tool. [8]

## **Technology Addiction (And Why You Should Have a Tech Free Classroom)**

Technology Addiction is on the rise, especially among adolescence. However, given how prevalent technology is, this article explains that it would be unwise to outright ban technology in schools. This is because students need to learn how to use technology effectively. In addition, students need to learn the dangers of technology. Harvey believes that it is up to educators to change the world for the better and offers seven tips to foster an authentic learning experience. The seven tips are as follows.

1. Encourage students to meet after class
2. Apply technology in a positive way for self-reflection
3. Assign actual paper books
4. Teach students to unplug
5. Encourage students to step outside of their usual screens
6. Promote balance to students in a meaningful way
7. Discourage the use of laptops for note-taking [9]



## **Transcendental Meditation**

The TM website provided me with information about the practice as a whole. TM greatly reduces stress and anxiety and leads to clearer thinking, better sleep, and a brighter, more positive state of mind. This is because it decreases cortisol (the hormone responsible for stress) by 30%. Researchers at Stanford University conducted a meta-analysis of 146 independent studies on different meditation techniques. They found TM to be twice as effective than any other technique at reducing anxiety. This is because it is the only form of meditation that is absolutely effortless, taught one-on-one, evidence based, and guaranteed. [10]

## **David Lynch Foundation**

The David Lynch Foundation for Consciousness-Based Education and World Peace was founded in 2005. Their goal was to ensure that any child in the world who wanted to learn meditation could. Through donations from foundations and philanthropists, the David Lynch Foundation is able to provide TM instruction to people all over the world. Since 2005, they have taught over 500,000 children and adults TM. Usually, they focus their efforts on underserved inner-city students, veterans with PTSD, and survivors of violence and abuse. Their program is called “Quiet Time” and it is implemented in four stages. First, school leadership receives TM training. Secondly, school faculty receives TM training. Then, the school principle signs a letter of intent, secures program funding, meets with parents to get feedback and support, and adjusts the school schedule to include two 15-20-minute Quiet Time periods a day (for meditation). Finally, students voluntarily learn TM. The funding for programs like this is usually reserved for at risk populations. The Quiet Time Program has had great reception and has completely changed the lives of students. An example of this was at New Horizons School in New Haven, Connecticut. Housed in a very dangerous community, the student body was plagued by homelessness, domestic and sexual assault, drug abuse, crime, and depression. Many had given up hope to learn and achieve success. Searching for solutions to help their student body, the school decided to look into TM. In just 5 months with the Quiet Time program, the attendance rate went up, grades went up, drop outs went down, and overall focus and demeanor rose. The following spring, they achieved the largest graduating class of all time. This is just one example in an entire database of Quiet Time implementations found on the David Lynch Foundation website. [11]

## Conclusion

After gathering all of the necessary information, I analyzed how each recommendation fit into the criteria. Recall, the criteria includes student awareness, number of technology issues schools have to deal with, student reception, and logistics of implementation. Based on my analysis, I gave each recommendation a score from 1-5 for each criterion. In addition, I assigned each criteria a weight from 1-5 based on the importance of the category.

Based on the overwhelming amount of evidence on the benefits of TM compared to other forms of meditation, my third recommendation has been refined to specifically recommend TM instead of any generalized MBI [5][7][10][11].

### Student Awareness

I assigned the student awareness criteria a weight of 5. This is because student awareness was the most important idea that was reinforced by both John and Eileen Calandro, and it continued to come up in studies and articles [2][4][1][8][9]. The strongest recommendation can not only make students aware of the benefits and dangers of technology but make them mindful of their own technology use.

The first recommendation of strict limits and bans on technology received a score of 2 for student awareness. This solution attempts to address the problem by simply eliminating technology. However, as Harvey said, completely eliminating technology is not the answer because it sheds a bad light on technology [9]. Students need to learn how to use technology to their advantage, instead of continuing to let it hold them back. The recommendation of digital citizenship classes received a score of 4 for student awareness because it achieves student awareness, but not student mindfulness. Digital citizenship classes would teach students the dangers and benefits of technology, and potentially attempt to make students mindful of their own technology use. However, it is still a class, meaning that not all students would fully engage and many still would not be mindful enough to reflect on their own experience with technology [2]. The final recommendation of TM training received a score of 3 for student awareness, because it achieves mindfulness, but not awareness. Unless tailored for technology purposes specifically, TM classes would improve mental health and make students more mindful, yet students would still not be aware of the benefits and dangers of technology [6]. However, if TM training was coupled or included in a digital citizenship class, both awareness and mindfulness would be achieved. Therefore, I gave the combination of recommendations two and three a score of 5 for student awareness.

## **Number of Issues**

I assigned the number of issues criteria a weight of 4. This is because both John Calandro and Nick Frost told me that this is how they usually determine whether policies are effective [2][3]. Given that both of the administrators I talked to in the school district being investigated cited this as their primary criteria for analyzing solutions, it must be important.

The first recommendation received a score of 4 for number of issues. According to John Calandro, technology bans this year have been successful, as they are aware of fewer social media blowups [2]. However, one thing he worried about was whether students were actually cutting back on technology use, or if the new policies were simply pushing technology use underground [2]. Nick Frost had similar concerns, as he noted that although San Luis Obispo High School has a technology policy, it is inconsistent because students can work around it and the implementation depends on the teacher [3]. The second recommendation received a score of 3 for number of issues. This is because despite my thorough research, I could not find any relevant evidence that related digital citizenship classes to the number of issues that the school had to deal with afterwards. The closest evidence I found was from my interviews with John Calandro and Nick Frost. In the San Luis Coastal School District, there is a health requirement that requires some basic digital citizenship training; although there is no before-after data, the digital citizenship training had some impact (even if the threshold was minimal) on the number of issues in relation to technology [2][3]. Given the nature of the class and the importance of teaching the benefits and dangers of technology, some impact can be expected. However, given that no relevant studies were found, a higher score could not be achieved by this recommendation. The third recommendation received a score of 5 for number of issues. This is because of the overwhelming amount of evidence supporting TM. Studies on how TM effects the brain by decreasing cortisol and case studies that show TM alleviating stress and anxiety support a decrease in the number of issues [7][10]. In addition, the David Lynch Foundation provided real stories of TM implementations in schools completely transforming the lives of the student body [11]. An addition of a digital citizenship aspect to TM would decrease the number of issues even more, especially when it comes to technology. Therefore, the combination of recommendations two and three also received a 5.

## **Student Reception**

I assigned the student reception criteria a weight of 3. This is because student reception is important but cannot always be considered. Given that decisions regarding technology usage are ultimately up to the students, it is important that they are willing to engage with the information or program. However, when implementing policies schools cannot let fear of bad student reception from a percentage of students hold them back;

there is bound to be resistance from some students, especially while working with a topic that is deeply engraved in most students lives.

The first recommendation received a score of 3 for student reception. Although this score may be expected to be lower, according to John Calandro many students actually may feel a sense of relief when they come to school and have to put their phone away [2]. Given how prevalent and pervasive digital media is in the lives of many teenagers, it can be refreshing to not have to worry about the phone while at school and to fully focus on learning. On the other hand, there are students that greatly oppose technology limits and bans and are constantly looking for work-arounds [3]. The second recommendation received a score of 2 for student reception. According to John Calandro, students would not be interested in taking a digital citizenship class for the entirety of a schoolyear [2]. On the other hand, if it were something that were to be revisited time and time again throughout grade school, it could get redundant for students to continue to have to take digital citizenship classes. The third recommendation received a score of 5 for student reception. Before I interviewed John Freeman, one of my concerns with TM was that students would not fully engage, but he informed me that even the students who were initially the most opposed to learning were greatly impacted by and looked forward to TM [5]. In addition, according to the study on MBI's, the acceptability report stated that over 80% of students found their training useful and satisfying [6]. Coupled with digital citizenship, student reception received a score of 4. Because the reception for digital citizenship classes received a 2, when added to TM training, the score falls to 4 to account for students that are still opposed to digital citizenship classes. However, TM could inspire students to be more accepting to learning about digital citizenship.

## **Logistics**

I assigned the Logistics criteria a weight of 2. This is because although logistics are important and need to be considered for each solution, the issue is ultimately of enough gravity to transcend any logistical limitations. In other words, no solution should be ruled out just because of the logistical implications.

The first recommendation received a score of 5 for logistics. This is because it is extremely easy to implement a technology ban; hence both of the administrators I spoke to already have technology policies implemented at their school [2][3]. The second recommendation received a score of 3 for logistics. This is because adding a class poses many questions [3]. Will the class be yearlong? Is it a one-time class? Should it be revisited every year? Should there be an advisory period added? These are all questions that schools need to consider when deciding whether or not to add a digital citizenship class. However, most schools have the resources to add a class, and would be able to make the logistics work if they deemed the impact beneficial. The

recommendation of TM received a score of 2 for logistics. This is because the implementation of TM is not easy, especially through the David Lynch Foundation. Usually, “Quiet Time” is a program reserved for populations of inner city and at-risk students. Although misuse and overuse of technology is a serious issue in the San Luis Coastal School District, the David Lynch Foundation is likely to focus its efforts in more poverty-stricken and dangerous places [11]. Therefore, implementing TM in schools could be expensive. However, given the overwhelming amount of evidence supporting the benefits of TM, if the school district was passionate enough about implementing it fundraising and/or financial grants would not be out of the question. The actual implementation of TM would be logistically difficult, but the instruction occurs on subsequent days, meaning that fixing the schedule would not be a permanent issue (unless “Quiet Time” was implemented, in which case two 15 minutes meditation periods would be added to each school day) [10][11]. The combination of recommendations two and three also receives a score of 2 for logistics, given that adding a digital citizenship aspect to TM training would not negate the issue of cost.

## Decision Matrix

Criteria and Weight	Criterion	Student Awareness	Number of Issues	Student Reception	Logistics	Total
	Weight	5	4	3	2	
Option 1	Rating	2	4	3	5	
	Score	10	16	9	10	45
Option 2	Rating	4	3	2	3	
	Score	20	12	6	6	44
Option 3	Rating	3	5	5	2	
	Score	15	20	15	4	54
Option 2/3	Rating	5	5	4	2	
	Score	25	20	12	4	61

Figure 1. Decision Matrix [12]

## **Final Analysis**

Ultimately, there is only so much schools can do to help solve a problem that is affecting our society as a whole. Therefore, the most important thing schools can do is provide students with the tools to make smart decisions on their own when it comes to technology. According to the decision matrix, option three was the strongest on its own, but it was even stronger when added to option two [12]. Therefore, digital citizenship classes coupled with TM training would not only teach students of the benefits and dangers of technology but would give students tools to become mindful of their own technology use. There are several options on what the digital citizenship aspect can look like; it could be a single day class that is taught before students learn TM, it could be a class that students take at the beginning of every school year regardless of grade level, it could be an advisory period that is built into the schedule on a weekly or biweekly basis. This is a matter to be investigated by the district as I cannot analyze what is best from a logistical standpoint. In addition, although option one is the only recommendation not included in my final recommendation, that does not mean that the current policies should be revoked. Revoking the current technology policies could give students the wrong impression, and although option one did not score the highest on the decision matrix, it still received a high overall score and is effective according to some of the criteria. However, given that it has already been addressed by the district, it is not included in my final recommendation.

## **Final Recommendation**

I recommend that the San Luis Coastal School District provide digital citizenship classes coupled with TM training for all students.

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