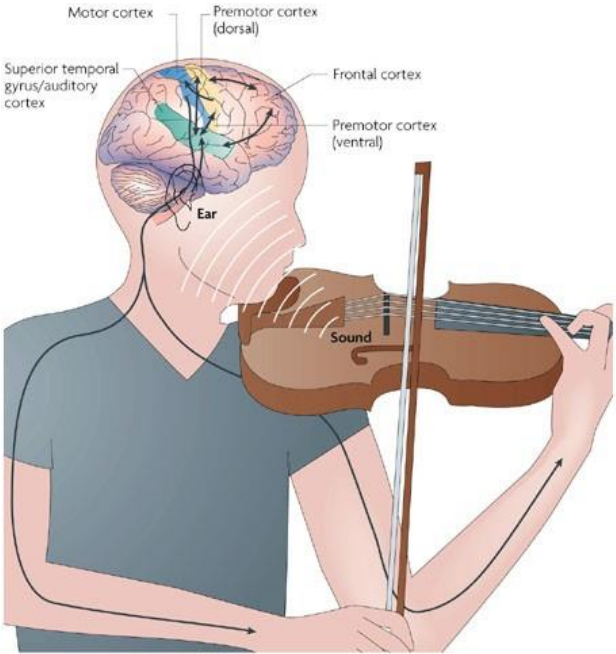


# The Importance of Early Music Education and Proposal for the Non-Profit “Listen-Up Project”

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Nature Reviews | Neuroscience

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## Introduction

*“Without music, life would be a mistake” –Friedrick Nietzsche*

Music education classes have historically been a part of every child’s education, starting in elementary school and through middle and high school. Currently, most elementary schools still have mandatory music education classes, but then these classes become optional in middle and high schools. One big reason for this is because more and more schools are having issues with funding, and the arts are usually the first to get the knife. Schools are being forced to pick between funding after school sports programs and buying instruments. It makes sense that now, more than ever, the United States is focused on improving scores on subjects such as English, Math, and Science.

In 2012, a ranking from the Program for International Student Assessment (PISA) highlighted in an article from Business Insider indicated that teenagers in the United States rank 31<sup>st</sup> in Math, 24<sup>th</sup> in Science, and 21<sup>st</sup> in reading, which are all lower than the 2009 rankings of 25<sup>th</sup>, 20<sup>th</sup>, and 11<sup>th</sup>, respectively (Weisenthal 2013). Why would a school fund what they deem as non-essential programs when they could be putting extra resources into Math and Science programs? Isn’t it more important to shape future leaders of America to be at the same level as the other powers of the world? While these questions may seem like they have an obvious answer, what many funding boards do not understand is the impact that these arts programs can have not only on the academic achievement of students but also on their upbringing as well-rounded individuals.

This first goal of this project was to identify the specific positive effects that early music education can have on an individual. This was done by researching studies to gather quantitative evidence of how music effects not only academics but also other aspects of young adult’s lives. Additionally, I conducted my own interviews from current college students about their music education experiences and how it has had a personal effect on their lives. In this report I will show, through

testimonies and studies, why early music education should be receiving greater funding and why it should be kept mandatory.

The second goal of this project was to offer a proposal for a theoretical program which would get children and young adults more involved in learning about music. I have named this program the "Listen-Up Project." In this report, I will outline the general ideas and goals of this program as well as the specific business model for this project. The main goals of this project would be to offer opportunities for music education as well as getting students more involved with music at a young age.

## The Impact of Early Music Education

It is no secret that many people have the opinion that music education strengthens other academic skills, and there have been a surprising amount of studies which support and expand on this opinion. While others may think that students should spend less time on arts and more time focusing on the core subjects, these studies suggest that music education can help improve overall academic scores.

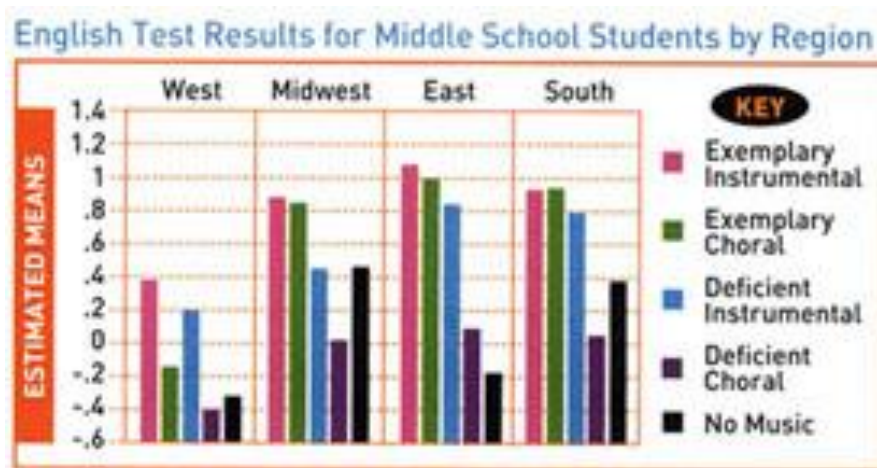
One such study appears in the Public Library of Science journal and is entitled *Practicing a musical instrument in childhood is associated with enhanced verbal ability and nonverbal reasoning*. In this study, fifty-nine children were split into groups of the type of musical training they had received. All of the children with musical training had received at least three years of education and were split into two groups by what type of training they had, and the third group had no formal music education. They were then given a series of cognitive tests to determine their skills in many different academic areas. This study showed that the children who had received instrumental musical training for three or more years performed higher in fine motor skills, discrimination between melodies, verbal ability and in non-verbal reasoning (Forgeard et al. 2008). One explanation that Forgeard et al. offer is that some aspects of music are shared with other activities, such as discerning patterns, decoding notation and listening skills.

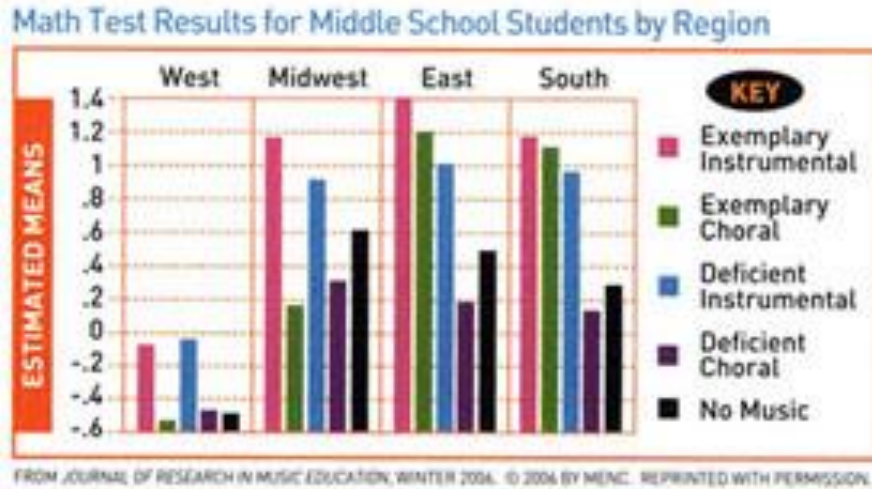
The Sounds of Learning Project was a 2005 major research initiative out of the University of North Carolina at Greensboro examining the role of music education on the lives and education of students. In chapter 2, *The Impact of Music Education on Academic Achievement*, Donald A. Hodges and Debra S. O'Connell explore many examples of research done on this topic, especially regarding math. They found that the highest percentage of students at or above grade level in second-grade math were those who were enrolled in the arts for two years, and less for those who were enrolled for less time (Gardiner et al. 1996). They posit that there is a connection between specifically music and math

because they both involve numbers, repeating patterns and ratios, so music education can directly improve students' understanding of mathematical concepts (Hodges and O'Connell 2005).

This chapter also goes into how music can improve test scores in other areas. The National Center for Educational Statistics, Morrison (1994), reported that high school sophomores in music scored better in English, Math, History and Science (Hodges and O'Connell 2005). Even further, Hodges and O'Connell describe a 2000 study conducted by Schneider and Klotz which studied musicians, athletes and non-participants. In earlier years the groups scored about the same. However, in middle and high school the musicians scored significantly higher than the athletes, and about the same as non-participants. That being said, the musicians managed to maintain their scores while the other groups' scores dropped over time. This means that continuing music education can have current and long-lasting positive effects.

This explanation is also supported by a 2004-05 study conducted by Christopher Johnson, the director of music at the University of Kansas, as described in an article from the National Association for Music Education (Olson 2008). This study compared the test scores in English and Math of students enrolled in quality instrumental and choral ensembles, deficient instrumental and choral, and students not enrolled in any ensembles. His results were the following:





These charts clearly show that there is a positive correlation between having a good music education and testing highly in English and Math. In every case, students with instrumental education scored significantly higher than students with no music. Additionally, in almost every case, students with exemplary choral education also scored significantly higher than the students with no music. The explanation that Johnson offers for these results is, “Many of the organizational skills and learning strategies present in high-quality music programs can aid students in the acquisition of knowledge in other subjects.” In short, music education gives students tools that they can use to help them in a variety of other subjects.

These findings also have further implications regarding the quality of the music education. While the schools with excellent instrumental and choral programs greatly outperformed students not enrolled in music, the schools with deficient music programs only slightly outperformed or underperformed students with no music. There could possibly be many other factors influencing these scores. For example, the schools that cannot afford to have excellent music programs also may not be able to afford good core subject programs. Additionally, these results could imply that a quality education in music correlates strongly to high performance in Math and English, meaning schools should push for more funding of quality music programs.

Music education can also have an impact on behavioral traits of students, especially teens. Extra-curricular activities, as a whole, are a way for students to get involved in something that they have an interest in. They have the ability to develop commitment, leadership, teamwork, and new skills. Additionally, extra-curricular activities can keep students from falling behind in school or getting into unsavory activities. This is supported in an article in the *Essai* journal from the college of DuPage, entitled *Positive effects of extra-curricular activities on students*, written by Erin Massoni. She discusses how between the ages of nine and seventeen are when kids are developing their own behaviors and independence. By engaging in extra-curricular activities, they are under supervision and are enriching their learning, helping them to better resist unsafe behaviors (2011). Massoni additionally describes how students can learn lessons in analytical thinking, time management, organization and leadership through these activities. They also look good on college applications because they learn about long-term commitments by signing up for one of these activities. This can be applied specifically to music education because a student will have to commit to learning a new skill and being held accountable in performances or examinations while also learning about playing in an ensemble or discovering new talents and passions.

More supporting evidence of the positive effects of extra-curricular activities comes from the *Journal of Adolescent Research* in a study called *Implications of Extracurricular Activity Participation During Adolescence on Positive Outcomes*. This study revealed that in 2000, 52% of participants in a nationally representative sample say that they would like more structured after-school activities in their communities or schools. This study also concludes that by exploring their interests and passions, teens can experience increased sense of self-worth, emotional development, cognitive development, and prosocial behavior. These activities also provide mentorship opportunities which can be crucial at this point in adolescent life (Zaff et al. 2003). What these results mean is that not only do teens benefit greatly from these programs, but they want more opportunities to participate in them. These activities



can deter them from unsafe activities by helping them realize their passions, giving them something to work for, and by providing a good influence of a mentor. They can make relationships with other students that have similar interests as them which will also be better influences than those they might make if they were left to roam free after school.

Furthermore, there are specific cognitive effects that learning, listening to, and playing music can have on the brain which affect not only learning but also development as an individual in society. One side effect of learning music is an increase in self-esteem and motivation in school, as described by James S. Catterall in an article from PBS entitled *The Consequences of Curtailing Music Education*. Catterall explains that students enjoy music and find a sense of accomplishment when they become proficient in an instrument. They gain collaboration, people, and leadership skills as well as a better sense of cultural pride and identification from music. He goes on further to explain that when musical experiences are taken away, students miss out on learning to make music, about how music comes to us and its connections to life and history (2014). Catterall raises an incredibly important point about how music opportunities are so important for students to explore not only because they might enjoy it but also because they can learn about the world around them through music.

This is supported additionally in an article by Nina Kraus and Bharath Chandrasekaran in the *Nature Reviews: Neuroscience* journal called *Music Training for the Development of Auditory Skills*. They argue that, “active engagement with music promotes an adaptive auditory system that is crucial for the development of listening skills. An adaptive auditory system that continuously regulates its activity based on contextual demands is crucial for processing information during everyday listening tasks (2010).” They also touch on how a fine tuning of auditory skills which represent the most meaningful, information-bearing elements in sounds which relate to human emotional experiences, as well as patterns which can enhance cognitive ability. By this information, it can be argued that musical training

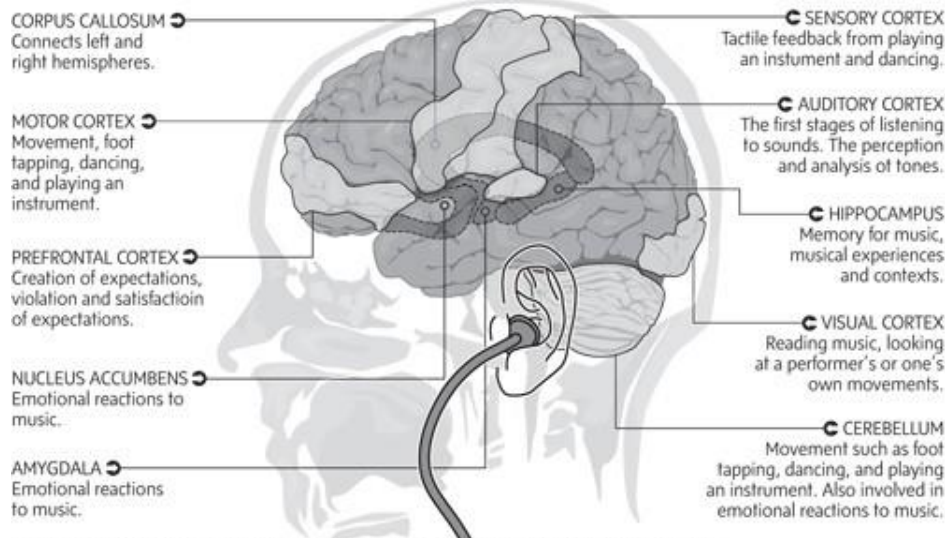
actually gives us skills to connect to the world emotionally and identify patterns which can help us think about the world in new ways.

This improved cognitive ability can also have an effect on other skills and attitudes which are beneficial to function in society as well as in the workplace. This is supported by an article from the Children's Music Workshop called *Music and Student Development*. In this article, Tony Mickela discusses a survey conducted by The Gemeinhardt Company in the 1980s about school bands. They found that additional benefits received from being in a band extended to accomplishment, appreciation, discipline, fun, active participation and maturing relationships. This article also mentions a speech by Dr. Wilson at the California Music Educators Association State Convention in 1989 where he posited that, "people can discover themselves and a sense of self in community through musical involvement." His research found that involvement in music connects the brain in a unique way. The implications for this are that not only will music involvement help an individual think in a different way, but will also help them become a well-rounded individual with strengths beyond the classroom.

The following image is a snapshot of how music can affect numerous areas of the brain to enhance cognitive ability. This image was pulled from an article by Belle Beth Cooper called *8 Surprising Ways Music Effects and Benefits Our Brains*.

## Music on the mind

When we listen to music, it's processed in many different areas of our brain. The extent of the brain's involvement was scarcely imagined until the early nineties, when functional brain imaging became possible. The major computational centres include:



MIKE FAILLE/THE GLOBE AND MAIL SOURCE: THIS IS YOUR BRAIN ON MUSIC: THE SCIENCE OF A HUMAN OBSESSION

Each of the different parts of the brain control a different physical or cognitive function. It is clear from the image that music stimulates parts of the brain which can impact decision making in the prefrontal cortex, motor skills in the motor cortex, memory in the hippocampus, emotional reactions in the amygdala, and many more areas.

In conclusion, it is clear from a wide variety of studies over many years that music has an overall positive effect on learning and development. Cognitively, it can help students understand and excel in subjects like Math, English, Language, and Reading. It can activate parts of the brain which will help students think about problems in new ways with very real effects on their test scores. Additionally, music education can keep students out of trouble, help them develop new skills and passions, prepare them for adulthood, and help them become more emotionally and culturally connected to the world. As Donald A. Hodges and Debra S. O'Connell stated so perfectly in the Sounds of Learning Project, "There is no reason why we cannot teach music for all the wonderful humanizing benefits it provides as well as for the potential for improving academic achievement (2005).

## Testimonies

For the next part of my research, I conducted a formal survey of ten college students at the University of Wyoming. Some were non-music majors and some were music majors, from all different grade levels. The survey was meant to reveal how students felt about their music education in school and how it has impacted their lives today. The questions were as follows:

1. Did you have mandatory music education classes in elementary school? Middle School? High school?
2. If they weren't mandatory, did you or would you have taken any of your own accord?
3. Did you enjoy music class?
4. What is your favorite memory from music class or anything you liked about it that stood out?
5. Do you feel that music classes were a helpful or interesting part of your education?
6. Do you think that there should be more, less, or the same amount of funding for music education programs in schools and why?
7. Have you ever been in a band with friends or taken music lessons?
8. If no, would you have taken music lessons if they were more affordable or if there were more resources available?
9. What impact, if any, do you feel that music classes have had on your life?

The results of this survey indicated that every single participant was required to take music classes in elementary school, while only a few were required to take music classes in middle school or high school. The parts that people liked about music classes were the trips they got to go on or the friendships that they made. The most interesting result of this survey, however, was even the students who indicated that they did not like or want to take music classes believed that there should be more funding for music education programs in schools. One student thought that even though he did not want to participate in these programs, other people did, and there should be more opportunities for them to do that. Another student expressed that students should be able to express themselves outside of their core curriculum. An example of another answer to question 6 was this, "Definitely more, especially in our high school they could barely afford to buy music so I think there should be more for new music, focused more on trips to get kids playing music or singing, or more opportunities." These

results show that even though not all students may be interested in participating in music programs, they unanimously agree that it is an important part of education that should receive better funding.

The most important question, in my opinion, on this survey was the last question. I wanted to know what specific students got out of their music education and how it impacted their lives directly. This was in order to prove what a profound impact music has from more than just an educational standpoint. For this section I will use direct quotes as evidence.

So, what impact, if any, do you feel that music classes have had on your life?

“I feel they made me a better-rounded person and provided a little culture in my life” –Cade Egbert, Freshman Marketing Major

“Music has been integral to my life. I started music in third grade and it has provided me with many wonderful opportunities, friends, and has taught me quite a lot about myself as well. Music has been the biggest social outlet I could ever ask for. Joining choir and orchestra early on gave me a sense of purpose, and taught me a lot about interacting within a community, and how as a community we can work with one another to create something beautiful. Beyond that, it has also provided me with many very close friends, as well as many hours to grow closer with them. And lastly, music has taught me quite a lot about the best ways I learn. It has also shined a light on many of my flaws, with healthy avenues that have allowed me to safely engage them. Music has been so much a part of my life, that I cannot imagine life without it.” –Ryan Smith, Senior Music Major

“The most obvious impact music has had on my life is the social environment. It's where you make most of your friends and find people who you have things in common with. Also music is fun. Singing and putting on a show is great. It's an outlet that is always going to be a good time no matter what else is going on in your life.” –Drew Syring, Junior ENR Major

“Music classes have impacted my life in a huge way. I still connect with my music teachers from previous years and I am not sure where my life would be without music.” –Madison Verlhurst, Communication and Spanish Major, Music Minor

“I think they've taught me, aside from just music obviously, how to think and look at the world from different perspectives.” –Nate Kuhn, Senior Computer Science Major

“It definitely gave me an appreciation for people who can make music. It has made me listen more carefully to music and be able to listen critically and appreciate the details of music.” –Mary Grace Bedwell, Sophomore Geology Major

“Music education has formed my life. That's not hyperbole or exaggeration. As I performed and grew as a musician I realized that I truly love the connection that comes from music. Even in mistakes, the ensembles are unified in their mistakes and triumphs. I knew that in order to make connections and elevate my life and the lives of others, I knew that working toward becoming a music teacher is the path

that I was born, raised and cultivated to take. I will forever be grateful for the role of music educators and my parents. At times, when my teenage angst separated me from my parents in some ways, my music teachers were there to guide me and provide me with a healthy outlet for my typical angst. They nurtured me and my peers, encouraged friendly connections and faced challenges with joy. All because we were comfortable with the vulnerability that comes with singing in a group. Music education molded my life forever.” –Paige Backman, Freshman Music Major

Clearly, some individuals were impacted more by their early music education experience than others, but every single person did get something positive out of it. Some discovered their passions and went on to even study music in college. Others still remember the friendships and community they made through the ensembles they performed in. In the last quote, it is moving to see that music was a way for this student to have an outlet for all of the negativity in her life and turn it into a positive. Some students now have a better appreciation for the details in music or feel a little more connected to history or to their culture. These testimonies speak for themselves on how much of an impact music education can have on students, even if they do not realize it at the time. Even the students who did not participate heavily in these activities have an appreciation for them and acknowledge that they benefitted from them socially, personally or academically.

This survey highlighted yet again the importance of putting more emphasis of including more and better music education programs in schools. These quotes are direct evidence that a) music has long lasting impacts on students, b) music programs are a place where students form important friendships and a community, c) music programs can be a creative outlet for negative energy, and d) students enjoy these programs because they allow them to have fun, gain new skills, and explore their talents and creativity.

# Proposal for the “Listen-Up Project”

## Introduction

The idea for the Listen-Up Project comes from the waning funds for music education in schools as well as the want and need for more and better music education programs. As shown in previous parts of this project, students appreciate and would like to keep these programs continuing. However, communities and lower-income schools do not always have the funding to provide for the demand of these programs. Additionally, I have made it clear that quality programs can have profoundly positive effects on students’ character as well as their academic achievement. This program would be a non-profit, volunteer and donation-fueled project. While this is only a theoretical business model right now, I would like to explore making this program a reality in the future.

## Mission/Purpose

The goal of the Listen-Up Project is to provide a safe environment that provides opportunities for students to learn and perform music. Not all schools have the resources for every student who would like to become involved in music. The other goal of this organization would be to educate the public to appreciate and demand better music programs, as well as to highlight the importance of music education outside of the classroom. The Listen-Up Project will also be a place for community outreach and involvement.

## Vision

Music education and community available for every child

## Values

Safety: this organization would provide a safe environment for students to go outside of schools.

Like in a community center, mentors and volunteers would be of the highest quality and share the mission and vision for the project.

Creativity: the Listen-Up Project is meant to be a place where students can explore their creativity and passions. It would be a place where these students have opportunities to try new things outside of their comfort zone.

Community: the only way this project will be successful is if there is a strong sense of community among volunteers and donors. With community support, this project can give back to the community by providing music, well-rounded individuals, and opportunities for further growth.

Empowerment: along with providing students with music education, this program is meant to empower these students to succeed in all parts of their lives. Through mentorship, learning, teamwork and integrity, students will gain empowerment to become future leaders.

### **Description of Program**

The main source of funding for this project would come from applications of governmental grants as well as private donors. To start, it may be feasible to take out a loan in order to get the project going. This project should be launched in one community as a pilot, and expand as it is needed. Initially, the most important assets to acquire will be a space and the instruments. An ideal space would be an old office building, school building, church or community center no longer in use. The building must have multiple rooms that can be used as classrooms as well as some sort of space that can be used for performances, such as a stage or a gymnasium. For instruments, the first way to acquire them would be to ask for donations. Many businesses or private citizens are willing to donate or sell used items at a discount for a good cause, and many individuals feel strongly about music education.



The next big asset that is needed to make this project successful is human capital. The Listen-Up Project would heavily rely on volunteers. It would be a good strategy to locate the program in a town with a college or university, because many students seek out volunteer opportunities. These volunteers would be required to complete a background check and would have experience with music. Along with students, other members of the community who have experience with music would most likely feel compelled to volunteer because they feel strongly about the cause. These volunteers would teach music lessons and some would direct a band or choir ensemble. This would allow children to form relationships with adult mentors who can also help them foster creativity.

Depending on the amount of instruments or volunteers, this program can shift to the needs of the community. Group lessons could be taught for popular instruments such as guitar. There would also be a room available for students wanting to form their own garage-type band to practice. The biggest part of the project, though, would be the band and choir. Students will sign into the center when they get there and be able to check out instruments. This will be a way to keep track of inventory as well as who is attending or missing from the program. There would be rehearsals during the week, and periodically through the year there would be performances to show the accomplishments of these ensembles. They could also perform throughout the community to raise awareness. At all of these performances there could be a donation bucket or similar option, as well as an online donation feature. Furthermore, volunteers could sell concessions or merchandise with the Listen-Up Project logo on it to raise some extra capital. Another option for local businesses would be free advertising in the center if they donate to the program.

One other option that could be a draw for volunteers as well as participants is a battle of the bands. If two or more of these garage-type bands uses the space to practice or is interested, there could be a once or twice a year event where they can compete against each other. This may even be a possible event to charge tickets for, and there would be a prize for the winning band.

Similar projects to this have worked in the past, and give me confidence that this project could be a success. One program is based out of New Orleans and is called The Roots of Music. This program was started after Hurricane Katrina because of the severe lack of programs in overcrowded schools. They provide tutoring, music lessons, and a hot meal for students that may not have such opportunities otherwise. I have provided a link to the website which contains a video which better explains the impact that this type of program has on the community and on the students.

<http://therootsofmusic.org/>

### **Future Plans**

If this project does, in fact, come to fruition, one of my first steps would be to travel to New Orleans and spend time with this program to understand how they have been successful and consider forming some type of partnership. Another option would be instead of creating a new organization, to join organizations and strengthen awareness.

When the project starts to pick up growth, expansion to larger communities would be an option. Another option would be to pour resources back into the original project to make it the best it could be. This would include creating more ensembles or lessons, providing uniforms, and possibly other services such as conducting lessons or academic tutoring. Hopefully, with more awareness, this project could spread to the rest of the country and possibly be an international project. This could eventually include expanding to impoverished countries that do not have any music education programs at all to build these safe community centers. The opportunities for the future are endless.

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