Tinkering with Music: Designing a Maker Curriculum for an After School Youth Club

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ABSTRACT

In recent years, researchers have focused on the design and implementation of maker activities across formal and informal settings. As a result, the research community is gradually articulating the challenges and design considerations relating to these settings. These include: tools, facilitation, and curricular requirements. In this paper we present the design and implementation of Tinkering with Music, a 10-week youth club curriculum around popular music appreciation and instrument building with electronics. Reflecting on our design and implementation, we report on: (1) our curricular activities; (2) design challenges which we had to overcome throughout implementation, and (3) a failure to engender long term engagement with tools and practices from the curriculum.

CCS CONCEPTS

• **Social and professional topics** → Computing education programs; model curricula; K-12 education

KEYWORDS

making, maker pedagogy, Arduino, music, after school, curriculum design

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1 INTRODUCTION

Over the past decade, making and tinkering, activities that involve the construction or repurposing of physical and digital materials have gained attention as a way to engage youth with STEM, cultivate a problem solving mindset and to democratize the use of digital fabrication [5, 10, 17]. This growing popularity is associated with maker education permeating a variety of educational contexts which include public libraries [3], museums [12] and recently school classrooms [1, 9]. Each of these educational settings present their own sets of opportunities and challenges.

Contexts for maker education can differ not only between sites such as a school and a museum, but also within a particular site that offers different activity structures. After school youth clubs in particular offer a range of activity structures that include choice-based, open-ended engagement, one-on-one apprenticeship, and group curricula. These activities, while taking place in the same location, present non-trivial nuances that warrant our attention as designers of learning environments.

In this paper we report on the design and implementation of a 10-week curriculum situated in an after school youth club for middle school aged youth. The curriculum attempted to blend popular music appreciation with making. Drawing on documentation of our design process and data collected during the curriculum, we share (1) a selection of our curricular activities; (2) challenges we had to overcome throughout the implementation of the curriculum; (3) a failure to engender long term engagement with tools and practices beyond the curriculum. We hope that our work contributes to the understanding of how to better design curricula for after school youth clubs, and specifically how to promote prolonged engagement within media rich youth clubs.

2 RELATED WORK

Our paper is situated in the literature on maker education design. This body of scholarship aims to expand our understanding of design decisions and challenges of maker education in terms of, structure, materials and pedagogy amongst other issues. [5] Documented his experiences of introducing digital fabrication curricula into the school environment. Chronicling five vignettes, Blikstein presents several affordances of making for learning as well as pitfalls that educators ought to avoid. [9] Studied the usability of six different connectors for elementary students' maker kits. The authors found that some connectors were better than others based on participants' motor capabilities and mental models. [11] Studied the practices that two teachers employed to broaden and deepen high school students' learning in an e-textiles curriculum. The authors noted that legitimizing student expertise led to peer learning throughout the maker activities.

3 BACKGROUND

We start by clarifying what we mean by informal learning, and try to identify where the curriculum fits in an informal after school youth club. While society still looks at schools, universities and colleges as the main sites of learning, many understand that the learning ecology of children is much broader. The IDC community, especially, has looked at out of school locales for learning such as libraries, museums, and the home to mention a few. However, we wish to be more specific about what is (and is not) informal about an after school maker curriculum. [22] Offers a framework to categorize learning environments based on two formal-informal continua. First, the setting continuum reflects the site where learning takes place. This would start on the formal end with a school classroom, move through a museum exhibit hall and on the informal end reach sites such as a living room around a video game console. The second continuum relates to the organization of the learning activity. On the formal end we would have a lecture and on the informal end we would have an activity such as playing a video game where learning might be characterized as "accidental".

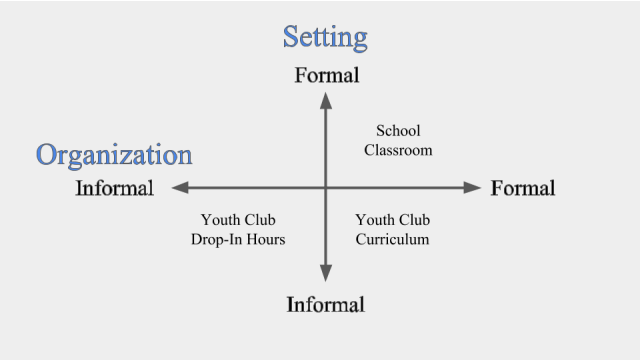

Figure 1. A two by two matrix of formal vs informal learning environments, derived from [22].

Figure 1 presents the two continua as axes in a 2 by 2 matrix. In this paper we present the design of and insights from a curriculum situated in an after school youth club, which could be visualized in the lower right quadrant. While we might typically say that an out of school youth club is an informal space, we designed a curriculum for students with structured activities.

4 CONTEXT

Our work came about through a partnership with a YMCA based youth club in a Midwestern city in the United States. Inspired by the Digital Youth Network model [4, 18], the club employed four youth mentors, young adults in their 20s who have backgrounds in spoken word, fine art, woodworking and social work.

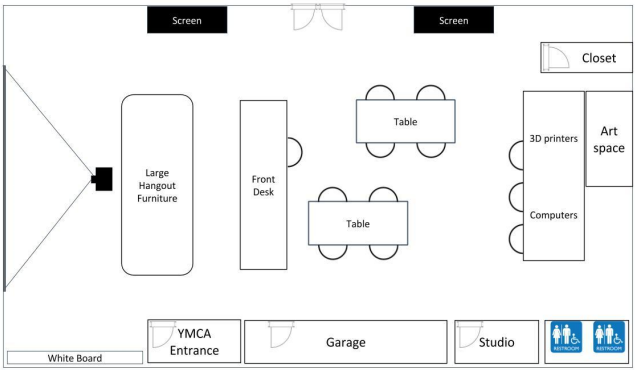

Figure 2. After school club layout with spaces for hanging out, working with digital fabrication tools, and other media.

4.1 Youth Club Environment

The physical design of the club is shaped to accommodate participation patterns of hanging out, messing around, and geeking out [15]. This deliberate design can be found in other media rich out of school environments [2]. Figure 2 provides a layout of the club. In the center of the club is the front desk where visitors check out equipment such as laptops and game controllers. To the left of the front desk is the main hanging out area. It includes a large furniture piece, chairs, and bean bags. To the right of the front desk is an area that contains desktop computers, and 3D printers. Pertinent to this paper are two dedicated spaces, the Garage, where woodworking and laser cutting takes place, and the Studio where visitors can listen to and record music in a soundproof room.

5 DESIGN GOALS

Talking to the youth club staff we repeatedly heard their expressed interest to introduce making and tinkering with electronics to the club. In a shared meeting between the researchers and staff, we decided to marry working with electronics with popular music appreciation. This mix was driven by two motivations. First, looking at the layout of the youth club, we envisioned a curriculum that would invite participants to move physically between the Garage, the Studio, and the main hanging out space and use music as a material for making. Secondly, we were inspired by voices in the maker community who call for interweaving computation with the arts [8, 18] and to recognize various traditions such as Hip Hop turntablism as forms of Tinkering [7].

Our goals therefore were as follows: (1) for youth in the curriculum to learn how to listen to and discuss music; (2) for youth to develop an interest in electronics; (3) for visitors and mentors to incorporate the tools and projects of the curriculum during drop-in hours.

6 DATA ANALYSIS

In this paper we make a contribution from our curriculum design and implementation. Based on video data, field notes, artifact documentation, and surveys we share five design challenges that emerged during implementation. Three of these challenges were met by our team, which we associate with maintained engagement throughout the activities. However, two of the challenges were not met, warranting consideration and iteration in future work.

6.1 Curricular Activities

The curriculum comprised of 10 three hour sessions. These took place on Saturdays, outside of the weekly drop-in time. 24 middle school students participated in the curriculum. Activities were led by one of the researchers, and facilitated by an undergraduate research assistant, and by 1-3 youth club mentors. There were three types of activities: (1) Brief lectures introducing topics (e.g. sampling) (2) active listening activities where participants and facilitators listened to songs, took notes, and discussed what they noticed; and (3) hands-on activities such as building electronic drums. In the next sections, we focus on three particular activities that were the most engaging to students based on our observations and end of the day surveys. For each activity we highlight insights about challenges that emerged during implementation.

Song Structure Board - Activity Description

In our first session, we included an active listening activity taken from Harvard's Project Zero [25]. Participants listened to a song and wrote ten things they noticed on paper and then shared with the group. We found that this activity did not engender active participation. Notably, most participants did not share their thoughts during the group discussion. This relative disengagement manifested in two other active listening activities that involved individual active listening and note taking with pen and paper.

With the aim of increasing engagement, the research team fabricated a collaborative game for participants to make their thinking visible as they actively listened and made sense of songs. We laser cut sets of wooden pieces that created a song structure game (see figure 3). Participants worked in front of a laptop and were asked to play one of four popular songs. As the song unfolded, they had to place one layer of pieces to reflect shifts between sections of the song. A second layer of pieces was connected with Velcro to name the section (e.g. "verse"). Finally, participants were asked to reflect on what section of the song they found most catchy and connected a third hook shaped piece to represent a musical hook. Facilitators had sheets with representations of the correct song structure for the four songs, and were available to support groups in their process.

Figure 3. A group of participants during the song structure activity.

Song Structure Board - Insights

We collected video data of one of the four groups during this activity. One of the researchers content logged an hour of video and then picked an episode for further transcription. In the following vignette, we use Interaction Analysis [13] to look at a turn-by-turn interaction within an 80 seconds long episode. The group (illustrated in figure 3) had just finished analyzing two songs, and began listening to "Havana" by Camila Cabello, the then number one song in the Billboard 100 chart. Pseudonyms are used for participant anonymity.

1 **Jada**: ((*turns her head toward the other girls*) It's a Shift!
2 **Emma**: That's the shift ((*places a piece*), you should put an extra shift there.
3 **Holly**: ((*mouths the words to the song while moving her hands to the beat*)).
4 **Jada**: Is this the verse? ((*lifts the verse piece and turns to the other girls*).
5 **Emma**: Yeah, but I think we should put those after.
30 seconds pass and the song is coming to an end.
6 **Jada**: Is this the outro?
7 **Holly and Emma**: ((*place more pieces*)).
8 **Jada**:((*Places the outro piece*) This is the outro!

Figure 4. A turn-by-turn transcription of the group interaction while listening to the then number 1 song "Havana".

In this short vignette, we can see participants using speech, gestures, and tangible symbols to make sense of and represent a song. In line 1 Jada turns toward the group and announces a shift. A second later, in line 2, Emma repeats the announcement and places a tangible piece. In line 6 Jada notices the song is ending and asks whether that is the outro. None of the girls respond to her. Instead Holly and Emma continue placing more pieces. In line 8 Jada decides that she notices an outro and places a tangible piece to represent it. This vignette demonstrates that a tangible and collaborative active listening game can be engaging and invite the use of domain relevant terms.

Although we chose four songs by different popular artists, we found that allowing flexibility and choice was important to some of the participants. Ten minutes into the activity, a group of five boys and a youth mentor were sitting disengaged in front of the song structure game. When asked why this was the case by one of the researchers, the boys said that they were not interested in the songs. Rather, they wanted to focus on their favorite rappers. The researcher then explained that they could pick any song, and asked the mentor to google the song structure (i.e. the lyrics) to facilitate the activity. Hence we suggest that activities that require engagement with music afford flexibility and choice in terms of artists so as to fit participants' interests.

Building an Electronic Drum - Activity Description

We wanted our main Arduino activity to have a low floor [20], and allow users to start working with electronics quickly. Additionally, we wanted the activity to yield projects that could interface with Garageband, the digital audio workstation found on macbooks which are used in the youth club. We adapted a tutorial from Instructables [26] for the construction of an Arduino based MIDI Drum kit. Figure 5 shows the construction process. An Arduino nano is connected to the breadboard, resistors and piezo elements are then wired to the analog pins. Ardrumo [24] is used to emulate a MIDI instrument which in turn allows the Arduino based drums to interface with Garageband.

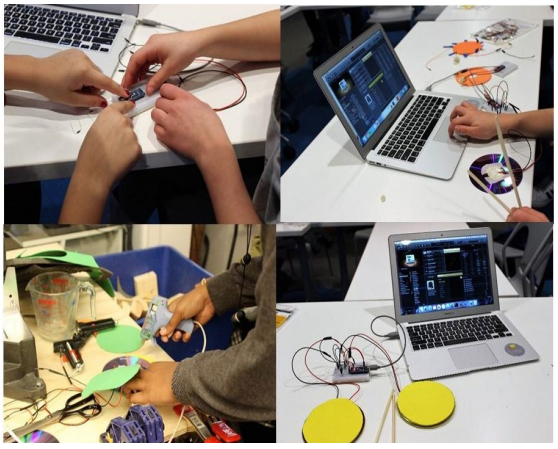

Figure 5. Stages of constructing the Arduino MIDI drum pads.

Building an Electronic Drum - Insights

At the end of our second session, we held an introduction to Arduino. Participants worked in pairs on a single Arduino Nano microcontroller and went through basic introductory activities: making the internal LED blink, wiring an external LED, and using a potentiometer. Participants found the activity very challenging. First, they struggled to understand exactly how to connect the components to the right holes on the breadboard and whether they had made connection problems or if something was wrong with their code. Moreover, our PD did not get the youth club mentors familiar enough with Arduinos to support participants. Therefore, one of the researchers and the research assistant facilitated the activity on their own. By the end of the session, only one pair out of eight reached the potentiometer example. We noted these challenges as we continued working with Arduinos throughout the curriculum.

We addressed the aforementioned challenges and tried to make the drum building project (weeks three and four) simpler for participants to construct, and for the mentors to facilitate. First, we tweaked the materials to make them easier to connect. We soldered differently colored jumper wires at the end of the piezo elements. Second, we provided participants and mentors with a clear debugging manual. This resulted in all pairs finishing their drums, and mentors being more involved in scaffolding the process. Moreover, end of day surveys showed this was the most enjoyable activity.

This case, presents two insights. First, it shows that materials should be adapted to fit the constraints of the particular setting. In the case of the after school curriculum, this meant having limited time, and students who were new to electronics. Second, although we conducted professional development (PD) meetings prior to each of the curriculum sessions, mentors did not feel confident with the Arduino kits. Our debugging manual allowed for the activity to flow well during the curriculum, but it still left us (the research team) as the leaders of the curriculum. We reflect more on this later.

Final Projects - Description

For the last two weeks, we had participants choose a final challenge based on the various activities of the curriculum. Participants chose three types of projects: two groups built a more sophisticated drum kit, one group decided to hack a guitar hero drum kit by replacing its board with an Arduino microcontroller, and two groups recorded their own tracks using Garageband. In the next section, we focus on a particular case, a group of three boys who designed a drum kit. We look at this case for two reasons. First, because it demonstrates a blend between the various aspects of the curriculum which we set out to combine, making and music. Secondly, because a leading member of the group provides an interesting case in terms of interest and learning.

Final Projects - Insights

Neil is a 12 year old boy, who had never visited the youth club before the curriculum. He heard about it through the club's recruitment in local schools. During our opening session, when we had a group discussion about what kinds of music we each liked, Neil said he does not really know much or care about music. Nonetheless, he attended all but one session, and showed high levels of engagement in all activities. For example, during the song structure game he led his group which successfully represented three of the four songs. In surveys he expressed an interest in Arduinos and coding once those were introduced on the second week. For the final project, he teamed up with Ron who was his pair during most paired activities. They were happy to accept Omer who had missed several sessions, and could not read the project instructions, as he was learning English as a second language. The team decided to make a drum kit where each pad would represent a part of an actual drum kit, a topic we covered before the first drum building activity. They sketched the drum parts and were guided by the mentor most familiar with woodworking as they fabricated wooden pads with a milling machine. Then they cut out foam pieces and wired everything up onto a wooden grid. Finally, using the Ardumo program they programmed each of the six pads to make a particular drum or cymbal sound in Garageband.

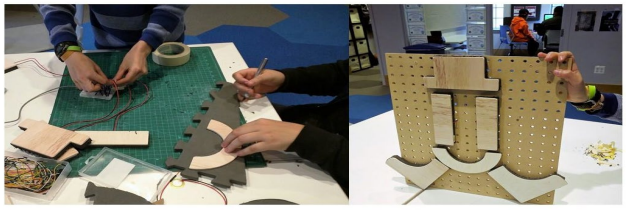

Figure 6. Left - the team working on their electronic drum pad. Right – The finalized drum pads.

The project we believe represents a successful blending of making with music appreciation. We find Neil's case to be especially interesting, because he was ostensibly more interested in electronics and coding throughout the curriculum and end of the day surveys. However, he ended up leading a project that utilized a variety of tools that were new to him while highlighting concepts in music that he had learned.

6.2 Outside of the Curriculum

Looking at the curricular activities and the final projects, we found that participants enjoyed themselves, and most had engaged and exhibited interest around music appreciation and making. However, five field observations conducted during drop-in hours revealed that neither visitors nor mentors were using Arduinos or making music related projects outside of the curriculum. Hence, we did not meet our third design goal which was for members of the youth club to incorporate the tools and projects of the curriculum during drop-in hours. We have two hypotheses as to why that was the case. We present those as design considerations.

First, as we identified during the Arduino activities, we did not design for the youth club mentors to lead the activities. This lack of familiarity and confidence with the tools may have a central role in preventing mentors from presenting the tools to youth outside of the curriculum. Facilitators in makerspaces tend to utilize the tools they feel most experienced with [16]. Secondly, we did not design for visibility outside of the weekend curriculum. It is very likely that most visitors during drop-in hours were unaware of the curriculum, the availability of Arduinos in the club, or that music discussions were had on the weekends.

These two design considerations reflect design flaws in relation to Interest development. [14] Describe interest development in four phases, with the first two phases being triggered situational interest and maintained situational interest. In both phases, material and social supports are needed to sustain prolonged engagement until (in some cases) a person develops individual interest in the activity. We hypothesize that addressing these design considerations may result in prolonged engagement by mentors and visitors in the afterschool youth club.

7 DISCUSSION

When making started gaining popularity it was discussed as a new philosophy of education, a potential progressive revolution that holds promises for the future of learning. In its first decade, research on making had primarily sought to develop new tools and spaces for making, and to characterize what learning looks like in maker education [23]. Research on making has entered its second decade and researchers, many of whom are members of the IDC community, are studying ways to better design to meet the promises of making [6].

In this paper we reported on the design and implementation of a particular maker education setting - a curriculum within an after school youth club. Our curriculum attempted to marry popular music appreciation with making. Our design goals were: to (1) develop youth interest in popular music appreciation; (2) develop youth interest in electronics; and (3) promote prolonged engagement in the drop-in space. Examining the curricular activities and participant projects we highlighted three design challenges addressed during implementation which helped maintain student engagement and interest. In addition, we observed the youth club during drop-in hours and found no evidence of prolonged engagement with curricular materials or projects. We drew two hypotheses as to why that is. Below, we share the three challenges and two hypotheses as design considerations:

a. Making Active Listening Collaborative - A central part of learning to make sense of and discuss music, is active listening. We found that a tangible, collaborative game increased engagement when compared to pen and paper activities. Moreover, it allowed youth to use music related terms as part of their interaction through gameplay.

b. Flexibility and Choice - Youth may want to explore or avoid certain songs, artists or genres. Activities should afford flexibility, so participants can engagement with music they care about.

c. Adapting Materials to Constraints - Designing an activity with a limited time cap requires a decision on how to scaffold for usability and completion. This means that certain aspects may need to be backgrounded. In our case, we backgrounded the coding to foreground the physical building of a drum kit and using it with Garageband.

d. Local Mentors as Agents - When designing a curriculum for prolonged engagement in informal youth clubs, mentors should be agents of facilitation. This may require a co-design process where mentors design and lead activities they are familiar with. Alternatively, a curriculum or particular activities designed by an external team (e.g. a research team) should include extensive PD and attention on mentor learning.

e. Visibility - In order to engender engagement outside of the curriculum, we think that projects, materials, and/or ideas should be made visible to visitors. This might take shape as kits that visitors can check out, or showcased projects that visitors can interact with.

8 FUTURE WORK

We are currently developing a second iteration of the Tinkering with Music curriculum with the same youth club. Based on the aforementioned design considerations, we are making two significant changes. First, to make mentors the agents, we are using a co-

design process. The mentors will be responsible for the majority of activities based on projects that are personally interesting to them. Our introduction of Arduino based activities will build on those projects and include PD to ensure that the mentors are able to run the sessions on their own. Secondly, to address Visibility we are going to build a showcase corner for curriculum projects to be on display.

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SELECTION AND PARTICIPATION OF CHILDREN

Participants were recruited through the youth club's outreach to local schools. The club serves a diverse population from a number of schools. Participants were 6 girls and 18 boys. 14 African American, 5 Latino, 4 White, and 1 Middle Eastern. Parents provided consent upon registration. Participants provided assent during the opening session. One participant said that she felt uncomfortable being video recorded and so we positioned the camera so as to keep her out of the frame. The research study was approved by our Institutional Review Board.

REFERENCES

[1] Genna Angello, Sharon Lynn Chu, Osazuwa Okundaye, Niloofar Zarei, and Francis Quek. 2016. Making as the New Colored Pencil: Translating Elementary Curricula into Maker Activities." In *Proceedings of the 15th International Conference on Interaction Design and Children*, pp. 68-78. ACM.

[2] Kimberly Austin, Stacy B. Ehrlich, Cassidy Puckett, and Judi Singleton, 2010. "YOUmedia Chicago: Reimagining Learning, Literacies, and Libraries--A Snapshot Of Year 1. Working Paper." Consortium on Chicago School Research.

[3] David Bar-El and Oren Zuckerman, 2016. Maketec: A Makerspace as a Third Place for Children. In Proceedings of the Tenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI'16), 380-385.

[4] Brigid Barron, Kimberley Gomez, Nichole Pinkard, and Caitlin K. Martin, 2014. *The digital youth network: Cultivating digital media citizenship in urban communities*. MIT Press, 2014.

[5] Paulo Blikstein. 2013. Digital fabrication and 'making' in education: The democratization of invention. In FabLab: Of machines, makers and inventors, Julia Walter-Herrmann and Corinne Büching eds. Verlag, 1-21.

[6] Paulo Blikstein and Marcelo Worsley, 2016. Children Are Not Hackers: Building a Culture of Powerful Ideas, Deep Learning, and Equity in the Maker Movement. In *Makeology*, pp. 78-94. Routledge.

[7] Leah Buechley. 2013.. Thinking about making. Keynote speech presented at FabLearn Conference, Stanford University, Stanford, CA.

[8] Leah Buechley, Mike Eisenberg, Jaime Catchen, and Ali Crockett, 2008. The LilyPad Arduino: using computational textiles to investigate engagement, aesthetics, and diversity in computer science education. In *Proceedings of the SIGCHI conference on Human factors in computing systems*, pp. 423-432. ACM.

[9] Sharon Lynn Chu, Michael Saenz, and Francis Quek. 2016. Connectors in Maker Kits: Investigating Children's Motor Abilities in Making. In *Proceedings of the 15th International Conference on Interaction Design and Children*, pp. 452-462. ACM.

[10] Dale Dougherty, 2012. The maker movement." *Innovations: Technology, Governance, Globalization* 7, no. 3 11-14.

[11] Deborah A. Fields, Yasmin B. Kafai, Tomoko Nakajima, and Joanna Goode, 2017. Teaching practices for making e-textiles in high school computing classrooms. In *Proceedings of the 7th Annual Conference on Creativity and Fabrication in Education*, p. 5. ACM..

[12] Joshua P. Gutwill, Nina Hido, and Lisa Sindorf, 2015. Research to practice: Observing learning in tinkering activities." *Curator: The Museum Journal* 58, no. 2, pp 151-168.

[13] Rogers Hall, and Reed Stevens, 2015. Developing approaches to interaction analysis of knowledge in use. In diSessa, AA, Levin, M., & Brown, NJS (Eds.), Knowledge and interaction: A synthetic agenda for the learning sciences.

[14] Suzanne Hidi, and K. Ann Renninger, 2006. The four-phase model of interest development. *Educational psychologist* 41, no. 2, pp. 111-127.

[15] Mizuko Ito, Sonja Baumer, Matteo Bittanti, Rachel Cody, Becky Herr Stephenson, Heather A. Horst, Patricia G. Lange et al., 2009. *Hanging out, messing around, and geeking out: Kids living and learning with new media*. MIT press..

[16] Breanne K. Litts. 2015. Resources, facilitation, and partnerships: Three design considerations for youth makerspaces. In Proceedings of the Interaction Design and Children (IDC'15), 347-350.

[17] Lee Martin, 2015. "The promise of the maker movement for education." *Journal of Pre-College Engineering Education Research (J-PEER)* 5, no. 1, 4.

[18] Kylie Peppler, 2013. STEAM-powered computing education: Using e-textiles to integrate the arts and STEM. *Computer*.

[19] Nichole Pinkard, Brigid Barron, and Caitlin Martin, 2008. Digital youth network: fusing school and after-school contexts to develop youth's new media literacies. In *Proceedings of the 8th international conference on International conference for the learning sciences-Volume 3*, pp. 113-114. International Society of the Learning Sciences.

[20] Mitchel Resnick, and Brian Silverman, 2005. Some reflections on designing construction kits for kids. In *Proceedings of the 2005 conference on Interaction design and children*, pp. 117-122. ACM.

[21] Erica Rosenfeld Halverson and Kimberly M. Sheridan. 2014. The Maker Movement in Education. Harvard Educational Review 84, 4: 495-504

[22] Julian Sefton-Green, 2004. Literature review in informal learning with technology outside school.

[23] Shirin Vossoughi and Bronwyn Bevan, 2014. Making and tinkering: A review of the literature. *National Research Council Committee on Out of School Time STEM*, pp. 1-55.

[24] http://inivent.com/ardrumo/

[25] http://pz.harvard.edu/resources/listening-ten-times-two

[26] https://www.instructables.com/id/MIDI-Arduino-Drums/