braries and try to spread the ideas by training and designing programs. Though the project's data, which are statements of the library staffs, might be biased and not clear enough, the reports still shed some light on the positive outcome of using libraries as makerspaces.

More research and discussion have emerged in recent years [7, 8, 9]. For small business and entrepreneurship in the community, makerspaces might provide them further technology and innovation [10]. Also, the function from providing information to creating knowledge and increasing the creativity emerges [1, 11]. The library could become a place to those who focus on learning and creation. Moreover, the relationship between schools and libraries is renewed. The colleges and universities could adopt maker movement and provide practical experiences and learning activities while the students do things by themselves [12, 13]. Further discussions about academic libraries are proposed [3]. Yet the separation from academic, public and school library is too trivial and unnecessary. In general, the major functions of a library is roughly the same. Facing the new opportunity of trended makerspace, it appears that libraries jus do what they have been doing in current society and community. The libraries stand a positive opportunity of creating makerspace.

4. COMMUNITY IN THE MAKERSPACES

Connection is important and the key to make a successful makerspace. After all, other than the sources such as expensive machines and spaces, the most valuable thing in a makerspace is to bring people together [3, 7]. People from different ages and background might hold different expectation when they come to the makerspace. In this section, the major component of community are extracted. The current research and work relatively are then briefly described.

4.1 Kids

From the Make: magazine, the maker movement of kids is arising. For parents who are not familiar and do not have sufficient equipment to hold house making things, a makerspace for kids offers the parents a way to educate their kids thinking by doing. The MakerKid, a makerspace set in Toronto, is targeted at kids [23]. They offer a variety of programs including learning to code Minecraft and making robotic inventions. In another makerspace in Detroit, Mt. Elliott, the participants are mostly youth between eight and nineteen years [21]. The key of this makerspace is that the participants are from local community. Kids need to teach other kids how they figure out and learn things such as troubleshoot a game controller, edit a video, silk-screen a T-shirt, or fix a bike's brakes. In addition, some participant would use the makerspace to extend their interest or skill. For example, an eleven-year-old girl initially creates videos on her mother's phone, then she produces the videos on the computer and upload them to host a YouTube channel with two of her friends in the space. It reveals that kids could be inspired and learn more by making things.

4.2 Students

Students need creative thinking and problem-solving skills for them to be prepared to enter the job market after college. A project in makerspace could help students learn how to think independently and how to find resource to solve the problems. It even could make students more interested in the filed of technology and engineering. Learning through making, students are also able to reinforce the theories they learnt in the class of school. For students, a makerspace provide them a spirit of creativity to make things they like and they are interest in but not provided by the schools. Also it provides the freedom that school might constrained because of resource or time.

4.3 Adults

Relatively, design a makerspace for adults are much harder and complicated compared to previous groups. The training for adult is relatively lacking [19]. We still could observe the expectation of adult makers from case study. From a case study, the authors observed a makerspace majorly composed of adults [21]. The purposes of adult members could be concluded to two major types. One is creating products for sale, and the other is for fun. Also some others are novice adult users and kids who like to attend regular workshop or classes rather than being members. In this space, they observe a wide variety of making. Members could build things for personal use, such as an engraved phone case, and for their start-up companies, such as wind turbines, while some work for fun and build an hourglass or welding bike chain sculptures.

5. OPPORTUNITIES OF MAKERSPACES IN LIBRARIES

Some additional advantages reveals for makerspace existing in libraries rather than a personal organization. This is based on the nature of libraries.

5.1 Learning Commons

A makerspace somewhat brings a library back to their functions: being learning commons. The need of a physical place for makers to meet and share ideas, and the libraries have the opportunities to create such spaces. Many new learning activities could happen within the makerspace. The creativity events could be like self-publishing technologies [1, 20], robotics competitions [21], programming workshop, and even cooking. Also, makerspaces are seen as a new way for school students to experience outside the book statements. It would be like a new lab and allow students to explore and earn experiments with technology in creative ways. That also could reinforce the theories they learn in the classroom. Moreover, the requirements of producing a maker environment requires many equipments and places to work with the tools and equipments. For libraries, they have already some equipments that are not books. Although the traditional imagination of a library is that it is combined of books, the library truly have things such as CDs, videos and so on. Thus, for libraries, since they have provide the users materials the users might need in the learning process, they would be more familiar on purchasing process and planning a makerspace, which could also view as another way for library users to learn.

5.2 Social Interaction

In addition to the learning and exploring functions of makerspaces, social function is significant as well. That is, interaction between makers could produce enormous benefits. The junior makers could learn from experienced makers. The makers could also cooperate to build things. For libraries, they have stood as an interaction center for communities. People come in to read together and to share the