

Department of Science, Technology, Engineering, Technology and Mathematics

Proposal for Lending Learning

Leonard Sheehy

August 16, 2015

I have a vision that there will be an increase in the use of ‘things’ in eLearning. The eLearning industry in 2015 is growing by 7.9%, improving content and offering a wider variety of classes (Docebo, 2014). Society is becoming comfortable with learning at home because of the lower tuition costs, conveyance, flexibility and comfort. As eLearning continues its growth, the manner in which content is provided will evolve. The high demand for eLearning will cause classes to begin using ‘things’. Manipulatives that support online content will be delivered to a student’s home. These items will then be returned for use in another home when the project is complete. *Lending Learning* is the proposed organization that can fill this need. It will substantially reduce costs and provide access to materials that students would otherwise be without. Students would be able to spend more time on projects because they would not be limited to the time schedule of brick and mortar locations. In a day when corporations like Amazon and Blue Apron bring a huge selection of goods to consumer’s homes, education manipulatives can be lent and borrowed just like a library service. In this case however, the ‘library’ will lend manipulatives as the major product, not books. The researcher’s exploration for this type of entity, one that lends materials to be used in the home for education purposes, resulted in mostly books. One site was found that provided a random list of materials that do not relate to any specific curriculum. The materials ranged from a rock tumbler to a Mamod

Working Steam engine model with no accompanying content (New Hampshire Homeschooling coalition, 2015).

There are different scenarios for the organization of *Lending Learning*;

- School centered – materials owned by the district are sent directly from the school to a student's home
- Private company - resources owned by the company are delivered homes, homeschools, learning centers, school districts or other locations.

This proposal will focus on the creation of *Lending Learning* as a private company that will provide content and robotic supplies directly to students. Robotics provides opportunities for realistic interdisciplinary application of relevant content. Students are encouraged to take possession of their tasks and will participate in reflective learning (Brown & Green, 2011). This proposal is based on constructionism which focuses on building to learn (Ackermann, 2001). According to Papert, students gain better understanding when they become more involved with their learning by constructing artifacts (Ackermann, 2001). Robotics provides the means to apply this type of environment. The program begins with Robotics I & II where children are taught the basics of the interaction between the concrete and abstract environments in which they will be working. It ends with Robotics III where learners are asked to apply their knowledge. Students are encouraged to take possession of their tasks and will feel empowered by solving real world problems they have chosen. This curriculum is based on building to learn. Robotics provides the means to apply this type of environment (Bers, 2007).

A series of courses will be offered. Students will view video and textual content online that will teach them how to build and program a robot. Then they are tasked with creating the robot and program it to demonstrate knowledge in different fields such as medical, manufacturing, aerospace, or transportation. Children will take pictures and make videos of their accomplishments and submit them to the teacher. They will earn badges, then receive verbal and written feedback as formative assessment as they progress through the course. This gives the instructor the chance to identify if any modifications are needed in the content as the class progresses (Brown & Green, 2011).

Instructional content methods of delivery will include programmed instruction and distance education. According to Brown and Green, programmed instruction takes place when a student works independently forming responses and receives feedback from those responses (Brown & Green, 2011). Programmed instruction is provided in this proposal when a student submits their pictures or video through the web as they complete activities. As Brown and Green state asynchronous distance education is instructional activities delivered through a peculiar type of communication medium that links physically distant participants (Brown & Green, 2011).

Students will use robots manufactured Wonder Workshop. Dash is the product chosen because of its low cost there are few parts to lose while offering children a chance to be creative using the variety accessories that are available. If necessary an iPad with internet access can also be loaned to the student if they are of limited means. Dash is compatible with iPad 3, 4, Air 1, 2, Mini 1, 2, 3, iPhone 5, 5c, 5s, 6, 6 Plus, iPod Touch 5, Nexus 7 (2013), Nexus 9, Galaxy Note 10.1, Galaxy Note Pro 12.2, Galaxy Tab 3, 8.0, 10.1, Galaxy Tab 4 7.0, 8.0, 10.1, Galaxy Tab Pro 8.4, Galaxy Tab S 8.4, 10.5, Nabi 2S, Nabi DreamTab and Galaxy S4, S5.

The eLearning plan for this proposal is based on the Business Model Canvas developed by The Kauffman Foundation and Strategyzer (Strategyzer, 2015). The plan uses nine building blocks that will bring the vision into reality. These building blocks are mapped onto the canvas to help design, invent, and discuss the business model. First the *customer segment* is defined. Here the individuals for which Lending Learning is creating value are identified. Next is the *value proposition*. These are the products and services that create value for the customer. *Touch points* are the channels for distribution in which Lending Learning will interact with the customers delivering value. *Customer relationships* sketch the nature of rapport Lending Learning will launch with the customers. *Revenue streams* will clarify how and through what rating tools Lending Learning is capturing value. *Key resources* are the items Lending Learning will establish to create, deliver, and capture value. *Key activities* are the tasks that need to be performed with high quality to insure success. Since no one individual has knowledge of all the key resources *key partnerships* are defined to provide access to all assets. Finally after defining the above eight entities the *cost structure* can be understood. The completed canvas is below.

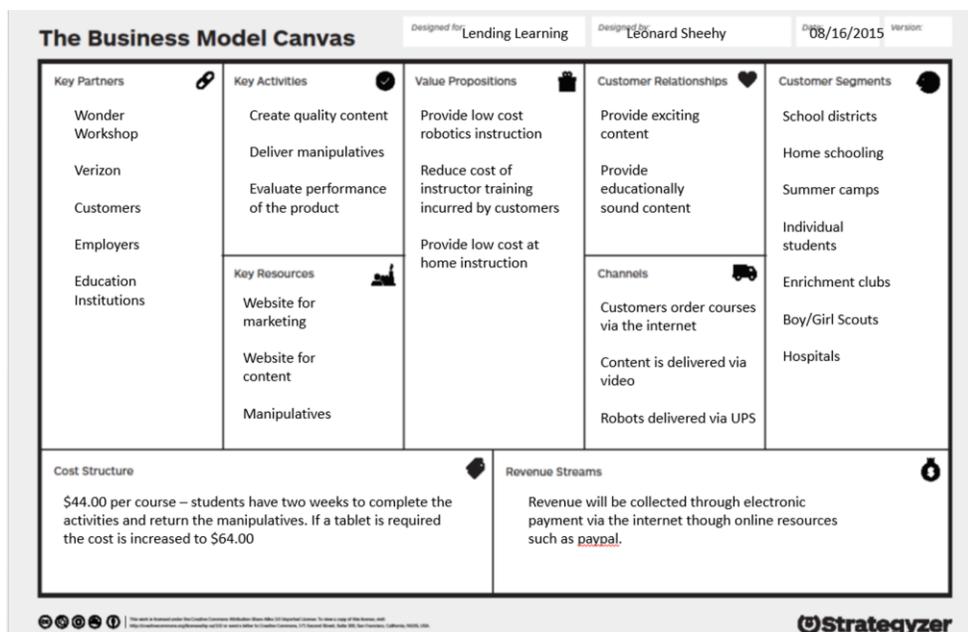


Figure 1 Lending Learning Canvas, source Strategyzer

The change issues I will need to be addressed deal with how society views the structure of education in the United States. Traditionally school has been during the day with one teacher in front of the room talking to students. The model proposed here moves the teacher from the front of the room as the sole provider of content to a facilitator of content. Children are now free to learn at their own pace at the time of day that suits them best. In order to transition to this environment I will need to demonstrate the benefits of eLearning and convince customers that there is value in the product. This will be accomplished by demonstrating in videos and presentations the convenience and comfort offered by this system.

As a leader in this organization I will need to establish objectives and form a timeline for fulfilling those objectives. The first object will be to create a business plan. A business plan is a proper declaration of business goals, explanations of how they are achievable, and tactics for realization them (Northouse, 2013). In the case of Lending learning the goals will be to create an exciting and informative environment where children can learn from home using manipulatives, in this case robotics. This organization will constantly research new methods and subject areas for learning to take place. The second objective will be to obtain funding. The business plan will be submitted to a variety of organizations including but not limited to Wonder Workshop, Verizon, New Jersey Education Association, New Jersey Department of Education, Chase Bank, and gofundme.org. The business plan will request funds to create online content, obtain manipulatives, fund the creation and maintenance of a website, and create a marketing plan. The money will also pay salaries for individuals to process orders, maintain inventory, provide customer service, and apply payments. Another objective is to create a marketing plan. This plan will be professionally prepared, reflect the values of Lending Learning and generate customers.

I will need to assemble a group of knowledgeable business people and educators that have the skills to identify how to create an environment that will allow the successful creation of the lessons, marketing plan, and financial stability for Lending Learning. Team leadership skills of providing clear and engaging direction, establishing structure, recruiting competent team members, forming a unified commitment, fashioning a collaborative climate, producing standards of excellence, obtaining external support and recognition and fabricating principled leadership will be applied (Northouse, 2013). Specifically team leadership will be provided

- providing clear and engaging direction – weekly meetings will insure clear communication and allow for members to ask questions
- establishing structure – clear job titles will enable each team member to understand their role in the organization
- recruiting competent team members – hiring and training knowledgeable and motivated employees will increase the chances for the success of Lending Learning
- forming a unified commitment – all members must feel that they are an important part of the team
- fashioning a collaborative climate – communication will allow open discussion of opinions
- producing standards of excellence – leadership should demonstrate not manage
- obtaining external support and recognition – developing partnerships will broaden the scope of products
- fabricating principled leadership will be applied – when problems arise a coordinated effort will be used to solve them

The organizational issues that need to be addressed focus how different team members use their individual skills to contribute to a product that has value for Lending Learning. To address this a systems approach will be implemented where all members contribute to the planning, creation and execution of the products into the marketplace. A variety of individuals including but not limited to content providers, web designer, marketing agents, and inventory

control will communicate and coordinate their job functions to provide a seamless product for the customer. Shared values and goals will define the interaction between these components. Customers receive value in reduced costs and in comfort and convenience. Educational groups will not need to distribute large sums of money to provide technical education to students because the unit is passed from one household to the other. This means that a class set is not required. Cost of technical teacher training is also reduced since the lessons are provided directly to the students. More resources can be allocated during the school day to students since the course is taken at home. School districts will not need to pay the administrative costs of controlling the inventory. Parents will enjoy watching their children learn. Students will like the opportunity to express themselves while using technology. Student groups such as the boy/girl scouts can provide robotic activities for a fraction of the cost since they use the materials on loan from our organization. Scholarships will provide the materials to students with little means thereby helping to balance the inequalities that exist in education today.

2. Who will pay for it? Why will they? How will you convince them of the value? What steps need to be taken to get the funds? Where will you get it? Grant? Budget re-allocation? Fundraising? Venture capital? School bonds? Tuition increase? In your conclusion, include how you will assess and measure the success of your plan.

Financial

Storage,

deposit required by user,

inspect returned to insure quality control

contact wonder workshop to partner with the project.

Ask Verizon to donate the data plan because it is for children without access.

## Dash & Dot Pack

Control Dash & Dot to move, light up, make sounds, and interact with each other. This dynamic duo can do anything you set your mind to.

\$229.99

Verizon Ellipsis 8 4G LTE Tablet, Black 8-Inch 16GB listed on Amazon for \$89.99 with a two year commitment (manufactured by Samsung). The monthly plan will be thirty dollars a month for 30 gigs of data.

89.99 \* 10

Consultant to make content \$20,000

100 dash and dots 22,990

Customer accession costs

A marketing plan that covers school districts, clubs, groups and home school \$40,000

Website \$50

Storage \$200

Delivery costs

Repair and replace \$250

Lending 100 kits for 1 month each -

Given the content and objectives of this course, consider and include the following three items: (a) What change issues will you have to deal with and how will you address them and manage them? (b) What leadership values and behaviors will you have to develop from within yourself and bring to the table in order to make your plan successful? (c) What organizational issues will you have to consider in order to write and implement a plan that will work in your environment?

The rest of this is not related to the elearning plan and funding proposal.

## Course Pitch:

The series will begin with Robotics I designed to give students basic understanding of computer languages and how it can be applied to control simple robots. Students will begin by using educational technology programs to design simple computer applications. By the end of the first unit students will have the basic understanding that when given a command a computer produces a specific function. Students will progress through self-paced challenges where they will master

loops, if statements, counts and functions (sub-routines). They will begin exploring robotics through the relationship between a computer program and simple robot using activities based on problem based learning. This is known as physical programming because it provides students feedback that is tactile. They are learning how to code by making ‘smart’ machines interact in their world. This supports a wide range of learning styles. The simplest platform, NXT will be used for sixth graders.

Robotics II will have students experience using computer languages in a more complex manner. Students will use variables in their code allowing the robot to make decisions based on data received by input sensors. The data will need to be received, stored and retrieved for further processing. One important skill introduced at this level will be documentation. Students will need to explain how the code is processing the information and present the documentation within the program. The skills developed during these challenges provide opportunities for inquiry based learning and understanding by design promoting the development of twenty first century skills. The EV3 platform will be used because of its higher level of functionality and improved software.

Robotics III tasks students to solve real world problems using robotics. Children will be able to choose different fields such as medical, manufacturing, aerospace, or transportation. They will be asked to design and build a robot to complete a task within the field. They will have an idea, build, debug, improve, and embellish a three dimensional operational machine. Students will once again be required to explain how the code is processing information and present the documentation with the program. More complex computer languages will be presented to students and a report explaining the purpose, functions and marketing of the machine will be required. VEX robots will be used here because of their flexibility and complexity.

## References

- Ackermann, E. (2001). Piaget's constructivism, Papert's constructionism: What's the difference. *Future of learning group publication*, 5(3), 438.
- Bers, M. (2007). *Blocks to robots: Learning with technology in the early childhood classroom*. New York, NY: Teachers College Press.
- Brown, A. and Green, T., (2011). *The Essentials of Instructional Design: Connecting Fundamental Principles with Process and Practice* Pearson Education Inc. Boston MA.
- Northouse, P. G. (2013). *Leadership Theory and Practice*. Thousand Oaks, CA: SAGE Publications, Inc.
- Papert, S., & Harel, I. (1991). Situating constructionism. *Constructionism*, 36, 1-11.
- Papert, S. Symposium Teaching Children Thinking. Massachusetts Institute of Technology, Cambridge MA, April 10, 1970.
- New Hampshire Homeschooling coalition. (2015) *Other Sources for Curriculum and Learning Materials.*, Retrieved from <http://nhhomeschooling.org/curriculum> on July 31, 2015
- Docebo. (2014) *E-Learning Market Trends & Forecast 2014 - 2016* Retrieved from <https://www.docebo.com/landing/contactform/elearning-market-trends-and-forecast-2014-2016-docebo-report.pdf> on August 3, 2015
- Strategyzer. (2015) *The Business Model Canvas*, Retrieved from <http://www.businessmodelgeneration.com/canvas/bmc> on August 3, 2015