Design Education for Ugandan Secondary Schools

A thesis Submitted to the School of Visual Communication Design,
College of Communication and Information
of Kent State University in partial fulfillment of
the requirements for the degree of Master of Fine Arts

by
Penina C. Acayo

May, 2013
Thesis written by
Penina C. Acayo
B.A., Goshen College, 2011
M.F.A., Kent State University, 2013

Approved by
Kenneth Visocky O’Grady, M.F.A., Advisor

AnnMarie LeBlanc, M.F.A., Director, School of Visual Communication Design

Stanley T. Wearden, Ph.D., Dean, College of Communication and Information
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TABLE OF CONTENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>v</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>vi</td>
</tr>
<tr>
<td><strong>CHAPTER I: INTRODUCTION</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>CHAPTER II: REVIEW OF RELATED MATERIAL</strong></td>
<td>5</td>
</tr>
<tr>
<td>Uganda’s Education Structure</td>
<td>5</td>
</tr>
<tr>
<td>Primary School</td>
<td>6</td>
</tr>
<tr>
<td>Secondary School</td>
<td>7</td>
</tr>
<tr>
<td>Challenges Facing the Current Education System</td>
<td>8</td>
</tr>
<tr>
<td>Major Boards Governing the Education System</td>
<td>10</td>
</tr>
<tr>
<td>Uganda Design Education</td>
<td>13</td>
</tr>
<tr>
<td>Design Education at Makerere University</td>
<td>14</td>
</tr>
<tr>
<td>Designers Without Borders</td>
<td>15</td>
</tr>
<tr>
<td>Design and Culture in Uganda</td>
<td>17</td>
</tr>
<tr>
<td>Cultural and Institutional Barriers Influencing</td>
<td>18</td>
</tr>
<tr>
<td>Summary</td>
<td>21</td>
</tr>
<tr>
<td>Design Pedagogy and Curricula</td>
<td>23</td>
</tr>
<tr>
<td>What is graphic design and what do graphic</td>
<td>23</td>
</tr>
<tr>
<td>designers do?</td>
<td></td>
</tr>
<tr>
<td>Teaching Foundational Design</td>
<td>26</td>
</tr>
<tr>
<td>Technology in Design Education</td>
<td>26</td>
</tr>
<tr>
<td>Classroom Participation and Engaged Learning</td>
<td>27</td>
</tr>
<tr>
<td><strong>CHAPTER III: RESEARCH METHODOLOGY</strong></td>
<td>29</td>
</tr>
<tr>
<td><strong>Overview</strong></td>
<td>29</td>
</tr>
<tr>
<td>Preliminary Interviews</td>
<td>31</td>
</tr>
<tr>
<td>Surveys</td>
<td>31</td>
</tr>
<tr>
<td>Interviews</td>
<td>34</td>
</tr>
<tr>
<td>Observations</td>
<td>41</td>
</tr>
<tr>
<td>Visual Anthropology</td>
<td>43</td>
</tr>
<tr>
<td><strong>CHAPTER IV: RESEARCH SYNTHESIS</strong></td>
<td>45</td>
</tr>
<tr>
<td><strong>Concept Map</strong></td>
<td>45</td>
</tr>
<tr>
<td>Personas</td>
<td>48</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>POEMSTA</td>
<td>51</td>
</tr>
<tr>
<td>How, Think, Do, Use Model</td>
<td>52</td>
</tr>
<tr>
<td>CHAPTER V: RESULTS</td>
<td>59</td>
</tr>
<tr>
<td>Curriculum Development</td>
<td>59</td>
</tr>
<tr>
<td>Curriculum</td>
<td>63</td>
</tr>
<tr>
<td>Conclusion</td>
<td>80</td>
</tr>
<tr>
<td>APPENDICES</td>
<td></td>
</tr>
<tr>
<td>A. List of Assumptions</td>
<td>90</td>
</tr>
<tr>
<td>B. Interview Questions</td>
<td>92</td>
</tr>
<tr>
<td>C. User Persona Data Points and Attributes</td>
<td>95</td>
</tr>
<tr>
<td>D. Comparative Analysis</td>
<td>98</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>103</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

FIGURE

1. Triangulation of Information Leading to Goal Statement ........................................ 22
2. Concept Map Showing Triangulation of Data .......................................................... 47
3. Secondary and University Education Enrollment Percentages .............................. 82
4. Secondary and University Level Enrollment Progression ...................................... 83
5. Primary and Secondary School Enrollment Progression ........................................ 84
6. Research Logic Model ............................................................................................. 85
7. KWHL Table ........................................................................................................ 88
8. POEMSTA ............................................................................................................. 89
Acknowledgments

There are a lot of people that I would like to recognize that have been instrumental throughout my graduate school education. I would like to thank my wonderful husband, Kyle Laker for supporting and encouraging me throughout this process, Anne Berry for believing in me as a designer and steering me towards Kent State’s VCD MFA program. My thesis advisor Professor Kenneth Visocky O’Grady, for ensuring that I stayed on track to completing this thesis. Professor’s Jerry Kalback and Sanda Katila for serving as members of my committee and providing constructive criticism. I would also like to thank all my colleagues in 105 for providing an atmosphere conducive for growth and creativity especially Rachel Hellgren for the countless nights of editing.

Special thanks go out to Addmaya film studio, Killa designs and all other persons who were instrumental in providing invaluable firsthand primary data on design education and the design industry in Uganda.

And finally, I would like to dedicate this thesis to my mother, Mrs. Beatrice Acirokop, for being a perfect example of strength, perseverance and hard work.
CHAPTER I
Introduction

With eight million people aged 15-30 and an unemployment rate of approximately twenty percent, Uganda has one of the highest youth unemployment rates in Sub-Saharan Africa.

“Despite this predicament, young adults have the ability and the capacity to drive positive social change and economic growth, if given the appropriate resources and opportunities” (International Youth Foundation, 2011). There is a high demand for qualified individuals in design-related professions with average salaries ranging from 800 dollars to over 1000 dollars per month (Ouma, 2008). However, due to the lack of qualified individuals in this field, employers have turned to overseas design firms for expertise. In order to join this growing multi-million dollar design profession, which includes career opportunities in entertainment, print media, television, and business, individuals need design training from a respected design program (Ouma, 2008). Therefore, there's need to widen the scope of art and design education in Uganda today (Kwesiga, 2000).

Currently, necessary training in design can be attained only from Makerere University and a handful of other information technology schools. Enrollment in the design courses at these institutions is limited to a few select individuals who can afford the tuition and living
costs, and have attained an advanced secondary school diploma recognized by the Ugandan Ministry of Education and Sports.

Since the introduction of the free Uganda Universal Secondary Education (USE) for ages 12-18 in 2008, more young people have access to education. However, “stakeholders have questioned the relevance of the secondary school curriculum to labor market needs.” Currently, the curriculum focuses on hard sciences that require a college education in order to pursue a career path. This leaves fewer career options for those who cannot afford a college education (International Youth foundation, 2011).

In response to this, the National Curriculum Development Center (NCDC) began revising the secondary school curriculum in 2012 with implementation planned for 2014. Expected changes include reducing the number of core subjects and increasing more practical training and computer-based programs (NCDC, 2011). In line with these expected changes, an introduction of a new secondary level design curriculum is attainable because; one, It is practical and two, it will equip young people with skills to compete for jobs in the emerging design market.

Increasing accessibility to design education will help combat the alarming unemployment rate among young people by giving them the required skill-set to compete for jobs in the growing design market. Familiarizing students with available design careers while in
secondary school will encourage them to pursue a more rigorous study in visual communication design at the university level. In the long run, this will provide young people with higher paying jobs that will help boost economic growth and also reduce the country's young adult unemployment rate while increasing the country's annual per capita income.

This thesis study proposes a secondary school level design education curriculum inspired by the Ugandan culture, empowering youths with basic skills to become self-sustaining, proactive professionals and preparing them for more rigorous study at the university level.

Research methodologies adapted

The secondary research for this thesis included a literature review in the areas of Uganda’s education structure, design education and pedagogy, classroom participation, tools that aid in the comprehension of design curriculum development, institutional and cultural barriers influencing and hindering design education, attitudes of employers towards young people and vice versa. This information was retrieved from academic design books, scholarly articles, papers, journals and government websites. A competitive analysis was completed to compare design curricula and programs offered at various design institutions in Uganda and similar developing countries.
The primary research for this thesis included; focus groups, telephone, online and in-person interviews with both secondary level and university design educators in Uganda, design professionals (both in-house and freelance), employers in the design field and representatives in charge of curriculum development in the Ministry of Education and Sports (MOES).

Observations were made of design educators from select secondary schools, design institutions and professional design workspaces in Uganda. Observations focused on their design work and teaching methods. This helped to gain clearer understanding of; the current level of design knowledge at the secondary level, the existing cultural barriers pertaining to design education, the perceptions of design and the opportunities for pin-pointing individuals for more in-depth research.
Chapter II
Review of Related Material

Uganda’s Education Structure

“Education is a key sector and a public good that gives returns to both the economy and the people. Investment in education has got educational, social, political and economic returns, which reach the majority of the population” (MOES, 2008). The 2004-2015 Uganda Education Sector Strategic plan views the accessibility of education as a solution to the reduction of poverty, increase in quality of life and equalization of income among individuals.

In order to create a design curriculum for Ugandan secondary schools, it was imperative to understand the structure of the overall education system, the major institutions that govern it and the challenges facing the system. Uganda’s formal education system requires one to go through seven years of primary education, four years of ordinary secondary education, two years of advanced secondary education, and tertiary, or university education. Each of these four levels is preceded by a national exam that allows only successful students to move on while those who don’t meet the required minimum are advised to repeat their final year or usually drop out of school. The Ministry of Education and Sports evenly distributes successful candidates based on their top four school preferences in a nation-wide selection process. Large numbers of students are also forced out of the system at each transition stage because of limited capacity at the next level.
Primary School

Primary education is comprised of seven years of schooling: lower primary (primary 1-3), transition year (primary 4) and upper primary (primary 5-7). Students that effectively complete each of these levels go on to sit for Primary Leaving Examination (PLE) at the end of the primary seventh level (MOES, 1999). Successful candidates are then admitted into a four-year secondary or technical school, while those who get below the required mark repeat the seventh grade and re-take the national exam.

As a way of combating the high illiteracy levels, in 1997 the government of Uganda introduced free Universal Primary Education (UPE) to ensure that every child had access to basic education. Primary education is free in all public schools for children at age 6. Key objectives were set in place following this change to ensure that a quality education for all children was maintained and necessary resources and facilities were in place to enable children to enter, remain and complete their primary education cycle (Kabesiime, 2010). Key objectives of UPE set by the government included:

(a) Making basic education accessible and relevant to student’s needs.
(b) Making education equitable in order to eliminate disparities and inequalities.
(c) Maintaining quality education to promote human development.
(d) Initiating positive transformation in social, economic and political fields.
(e) Ensuring that basic resources are available to meet the increasing demand of children that enter school (MOES, 1999).

Secondary School

In the recent past, Uganda has been breaking new ground and revamping their secondary education system to suit the whole age cohort rather than just a small academic elite. Due to the overwhelming number of primary school graduates, in 2003 the government of Uganda introduced free Universal Secondary Education (USE) to give all young people the opportunity to develop their full potential and compete for jobs on the labor market (MOES, 2008). See enrollment graph in figure 4, page 83 for statistical figures.

Secondary school comprises two levels: ordinary level (four years, ages 12-16) and advanced level (two years, ages 17-18). Successful completion of both ordinary and advanced levels leads to the Uganda Certificate of Education award (UCE) and Uganda Advanced Certificate of Education (UACE). The UACE is a nation-wide mandatory entrance exam for university or tertiary education. Relative to their exam scores, students then have a choice of:

a) proceeding to advanced secondary school (A-Level),
b) entering a Primary Teacher College,
c) enrolling in a Technical Institute, or
d) seeking out a skill-training option in the private sector (MOES, 2008).
The majority of students that pass their ordinary level exams go on to the advanced level. Here, students get the opportunity to major in either science or art-related courses for an additional two years depending on their future career goals. Options are limited to three core subjects and one elective subject. Depending on their advanced exam results (UACE), students compete for admission spots in various degree, diploma and certificate programs at select universities (public or private), National Teachers Colleges, and Technical Training institutes (Kabesiime, 2010). Approximately sixty percent of the secondary level graduates are not able to afford a University education, most end up looking for jobs in the work force. See enrollment figures 1 and 2 for detailed enrollment trajectory. Therefore implementing a secondary level design program during their two year advanced secondary level, would be most effective by equipping them with highly desired skill-sets demanded by the labor market. This would ultimately play a role in reducing the high unemployment rates among the young people.

Challenges Facing the Current Education System

The cost of education at the institutes of higher learning has increased considerably over the years despite the limitation of resources. As a result, the quality of education has dropped, as have the numbers of students attaining a university degree (MOES, 2008).

“Since the existing curriculum is largely a collection of examination syllabuses, teaching is
directed towards achieving the highest grade in the national exams” (Clegg, Bregman, Ottevanger, 2007). Therefore practical skills remain largely untaught and very little active learning is evident within the current system (MOES, 2008). Secondary level classrooms have ceased to be an environment that encourage creativity, problem solving and active learning which are demanded by the 21st century workplace and society (Clegg, Bregman, Ottevanger, 2007).

The current secondary level curriculum does not cater to either the social or economic needs of the country. The curriculum lacks character-building aspects such as citizenship, ethics and social responsibility (Clegg, Bregman, Ottevanger, 2007). Institutes of higher learning no longer strive to produce graduates that fulfill labor market needs of the country causing a massive decline in the quality of students who graduate with a university degree or diploma. Potential employers shy away from recent graduates due to their bad reputation and lack of required skill-sets to become productive individuals. A labor market survey by NCDC showed that over 60 percent of employers in Uganda perceive their workers who have graduated from an institution of higher learning to be inadequately trained (MOES 1999).

“Neglect of non-science based subjects in secondary schools has increased the number of unemployed young people and also frustrated the efforts of those that have the desire to study other disciplines,” (MOES, 1999). The current secondary school curriculum puts more
emphasis on promoting hard sciences; this excludes all but an academic elite. Failure rates, particularly in key subjects such as mathematics and physics are as high as 50 percent (MOES, 1999). Many parents end up making their children pursue the hard sciences at the advanced secondary school level with the hope of them having a better chance of getting a job upon graduation.

“The prevalent teaching style is almost solely in the form of teacher-dominated classroom with silent learners” (Clegg, Bregman, Ottevanger, 2007). It is driven by the need for students to succeed in a high-stakes examination where success is determined by the ability to learn a mass of knowledge that is largely fact-centered and decontextualized. “The challenge is to create a curriculum that promotes teaching styles aimed at building the key metacognitive abilities and demanded by the labor market” (Clegg, Bregman, Ottevanger, 2007). The National Curriculum Development center is currently revamping the secondary school curriculum to increase more practical-skills and computer-based programs (MOES, 1999).

Major Boards Governing the Education System

MOES is responsible for developing and implementing appropriate education policies to ensure the smooth running of this ministry. It also oversees curriculum development as well as assessment and certification at all levels of learning (MOES, 1999).
The Ugandan National Examinations Board (UNEB) was set up by the Act of Parliament No.2 of 1983 to conduct nation-wide examinations of the different transitional levels in the education system. Their mission is to ensure continued improvement of quality in assessing and evaluating the curriculum and learners’ achievements (MOES, 1999).

The National Curriculum Development Center (NCDC) was set up in 1973 as a result of the re-structuring of the education system to match the country’s realistic needs and is responsible for developing and revising the curricula for various levels of education (Kabesiime, 2010). They are also front-runners in developing teaching aids, testing material and in charge of revamping the current secondary school curricula to one that fulfills needs of the work force (MOES, 1999). NCDC’s director, Conie Kateeba said the new curriculum is intended to provide a holistic education that can promote critical thinking, creativity and innovation among students.

“It will build metacognitive abilities and skills among the students to provide them with an opportunity to be better placed in the changing workplace” (Clegg, Bregman, Ottevanger, 2007).

The center was used as a major resource of information that aided the understanding of the challenges facing the current secondary level curriculum and goals for the new curriculum.

While developing the proposed design curriculum, NCDC’s suggestions for the new secondary level graduate will be put into consideration.
Section summary

“Since the implementation of UPE in 1997, there has been an increase in enrollment of children from poor households” (MOES, 2008). The introduction of USE has subsequently increased the transition rate from Primary seven to secondary school by 22%; that is three million in 1987 to seven million children in 2007 (Clegg, Bregman, Ottevanger, 2007). See figure 5, page 84 for more statistical reference. Evidence suggests that students with secondary education increase their chances of being employed within the formal sector. “Secondary education is particularly a prerequisite for middle and high level, manpower production” (MOES, 2008). Therefore, individuals that successfully graduate with a secondary certificate are capable of positioning themselves in professional spots for jobs.

Challenges faced by the current education structure include; high cost of post secondary education, inadequate skills taught to fulfill current social and economic labor market needs, sciences related subjects are highly valued at the expense of arts related subjects, the system being more theoretical than practical, passive learning classrooms.

There’s an opportunity to develop an advanced secondary level curriculum that will mold young people into become more self-reliant, proactive professionals capable of competing for jobs right out of school, especially if they can’t afford to pursue a more rigorous study at the
university level. This will in turn contribute to improved equity and income generation and in the long run help combat the high unemployment rate among the youth in Uganda.

**Uganda Design Education**

Uganda’s design education has its roots in the British colonial era, which put a strong emphasis on art and later spurred the introduction of Makerere University School of Fine Art. Art has been at the core of preparing students for a career in design. Founded by Margaret Trowell in 1937, Makerere became the first institution of higher learning to offer a degree program in art and design (Kwesiga, 2009). In 2007 the university, with the help and guidance of Designers Without Borders, established a graphic design curricula leading to a bachelor’s degree in visual communication design.

The only available structured design education is attainable at the university level and a handful of design institutions. One has to first graduate from advanced secondary school with the required minimum grade point average, then compete for the limited government scholarships or pay the high tuition cost to enroll in the program (Kwesiga, 2000). Only an estimated 2 out of every 1,000 secondary level graduates can afford a university education and only 4 out of 1,000 are able to enroll in any kind of private or public post-secondary institutions (Businge, 2013). Because of the competitive nature of available government scholarships and
the high cost of tuition, many young people opt to attend design institutes that focus more on making money and do not adequately prepare them to join the labor market. Due to all these factors, secondary level graduates who are interested in pursuing a design education end up teaching themselves through online tutorials and blogs or seek help from their peers. Hence, there is a need to widen the scope of design education that would expand the avenues through which young people interested in pursuing a career in design could acquire basic skills to better their chances of getting a beginners level job in the design industry. The most effective and practical level to instill a new design education curriculum would be at the advanced secondary level, which is available to students as an additional two years of specialized study.

*Design Education at Makerere University*

At this point in the research phase, it was necessary to examine how the current design education curriculum prepares young individuals to enter the professional industry. The department of Visual Communication Design and Multimedia at Makerere University is one of three departments in The Margaret Trowell School of Industrial and Fine Arts (MTSIFA), under the College of Engineering, Design, Art and Technology (CEDAT) (Nakazibwe, 2011). The department offers undergraduate degree programs in Visual Communication Design and Multimedia (Kwesiga, 2011).
Prospective students for the bachelors degree in visual communication design must meet one of the following two requirements to be considered for admission in the schools undergraduate program; have an advanced secondary level certificate or diploma from a respectable institution. Students who graduate from this program are expected to create their own employment through freelance work, or get jobs with advertising companies, printing firms, galleries or schools as art teachers (Kwesiga, 2011). This goes to show that even though students go on to get a design degree at the university level, they are still faced with the burden of creating their own employment with minimal skills.

*Designers Without Borders*

In 2001, Designers Without Borders was founded in response to the high number of unemployed struggling graduates. "It exists as a voluntary consortium of designers and design educators who are dedicated to helping under-resourced institutions of the developing world meet their communication design needs" (Stairs, 2010). Designers Without Borders has played a significant role in Uganda’s drive to boost design education. While in Uganda, they helped develop the first ever government approved graphic design certificate program, taught classes in graphic design and designed and online summer program for Makerere University (Stairs, 2010). Despite all the efforts by Designers Without Borders, there are still many unresolved
institutional barriers that hindered the proposed new curriculum from taking effect.

Curriculum

Students take classes that offer both theoretical and practical knowledge in various areas of study including animation, graphic design, sound production, 3D modeling, web site design, game design and interactive media design, social design, professional practice and management among others. Programs offered require access to essential technology devices needed to implement these studies that the University currently lacks. “Core courses required for the Bachelor in Visual Communication Design include; Drawing, Art History, Design Computing, Entrepreneurship &Business Practice, Research, Photography, Media Design, Graphic Illustration, Field Attachment, Exhibition and Photography Design, and Printing Production” (Kwesiga, 2011). The caliber of classes taught at this level involves mastering of mostly new and foreign material that students without a prior knowledge in design would have difficulty in understanding on top of designing using computers (adobe creative suite design software) for the first time. This partly why graduates from this field have trouble getting jobs or creating jobs for themselves because of their limited mastery of the essential skills needed at this level.

There is a need to provide students with the basic foundations of design before they go to attain a more in-depth 3 year rigorous education in visual communication design at the
university level. Students who go on to receive a degree in visual communication design will have a smoother transition to the courses taught because of their familiarity with the fundamental principles of design.

*Design and Culture in Uganda*

In promoting the enrichment of a society, it is important to understand the culture of the people and its essence on society in order to have sustainable results. The local and endemic cultures of the society should be considered when implementing a project. “Culture can be described as an iceberg; only a small portion of the iceberg is above sea level and visible, the main part is under water and difficult or impossible to see” (Toiviainen, 2011).

Culture is an integral part of art and design education in Uganda. “Culture, art and design are interwoven when depicting a culture of togetherness” (Kwesiga, 2009). African culture puts much emphasis on the aspects of the community, togetherness and colonial history, all of which are reflected in the majority of Ugandan design work (Kwesiga, 2011).

Taking inspiration from the natural surrounding and indigenous crafts in schools contributes significantly to diversified teaching which encourages the growth of an identity for design that is befitting of Uganda culture (Gombe, 2009).

In order to help build an identity for Ugandan design work, it’s imperative that the
foundational knowledge passed on to students engaged in the new design curriculum

events the use of local materials and designing within the context of their culture. Since the

current secondary education incorporates a portion of design in their curricula, lessons in
drawing, painting and imaginative composition will be incorporated and taught concurrently
with design classes to provide a smooth transition to the new design projects.

*Cultural and Institutional Barriers Influencing Design Education*

Currently, there is not a program that specifically teaches graphic design pedagogy at the
secondary level; only a few aspects of design are interwoven within art education. Students use
skills learned in painting class to execute book cover designs, posters and illustrations as part of
their design education. Due to the high costs involved in the teaching of art and design in
schools, most schools have abandon the courses. There aren’t many schools with access to
computer labs to help teach students how to use design software. Though Art has been at the
beginning of preparing pupils for a career in Design, the lack of materials, equipment and
qualified professionals proves a hindrance to design education (Odoch, 2011). The curriculum
that this thesis study proposes should include assignments tailored to suit the resources
available to the students at this level. All projects will be designed as hand done to not only
build on the current culture of art education but also make it more readily affordable by the
There is also an urgent need for manpower at all levels of education. Due to the growing numbers of enrollment at the secondary level students, there is a strong demand for qualified teachers to match the student enrollment levels.

Poor perceptions of art and design education in secondary schools has affected its teaching at that level. Art and design are perceived as a subject for the academically weak students who fail to study the hard sciences. Lack of adequate knowledge in design leads to setbacks and neglect from the government especially since the people making policies do not value design education (Odoch, 2011). Art and design are not highly valued among students pursuing science related subjects because it’s viewed only as beneficial to relieve the stress associated with taking hard sciences. (Odoch, 2011) This is also in part due to the lack knowledge of career paths the field of graphic designers presents after graduation. Perceptions and behaviors can however be changed overtime with an increase in quality graduates and employments within the design industry.

_Uganda Design Industry_

Despite the paucity of design education at the secondary level and limited access at the university level, the design industry in Uganda is fast growing and in need for qualified
individuals in design professions which offer competitive salaries (Ouma, 2008). Data available at the Uganda Bureau of Statistics (UBOS) indicates that Uganda’s printing industry alone employs 7,000 people in over 380 companies. Despite the scarcity of a formal education, many aspiring designers have found employment in printing and design firms, first as apprentices within the company before becoming skilled experts. Employers have however continued to decry the lack of skilled manpower or formal education due to the high cost of higher education. (Balimwikungu, 2011).

With technology changing everyday, employers within the design industry have taken it upon themselves to ensure that their employees receive appropriate training in the ever-changing technology. This has seen some larger companies take employees to abroad, for further education whereas the smaller companies opt to use available courses from universities like Kyambogo and Makerere. With the high cost of these courses in design technology, employers have resolved to pooling funds within the company and sending select individuals to acquire design technology knowledge and return to educate their colleagues. As a result, quality and efficiency in production has improved and employees have retained their jobs rather than having them sent abroad due to lack of skilled manpower needed execute design jobs (Balimwikungu, 2011).
Summary

Through this literature review, a clearer understanding of the Ugandan education system was attained; the current design education is only existent at the university level despite the low enrollment rates. Sixty percent of students that graduate from the secondary level go on to look for jobs in the working field. The design industry is fast-growing with a demand for young designers who are capable of problem-solving, critical thinking and self-motivated to learn essential skills. Employers in the design industry value an advanced secondary level certificate and are capable of hiring students as long as they are proactive, creative and fast learners. “Even though a formal education in design doesn’t make anyone more talented, it does provide a strong foundation upon which to grow into a professional” (Heller, Fernandes, 2002).

Consequently, with adequate training attained through the proposed design curriculum, secondary level design graduates better prepared to compete for entry-level jobs. The diagram below summarizes all the information gathered thus far and its triangulation through which the thesis goal statement is generated.
The goal is to take advantage of the advanced study at the secondary level to introduce this new design curriculum since students at this stage only study three core subjects. The
significance to introducing the design discipline at this time of exploration is that it broadens
the scope of awareness to a field that is currently unacknowledged, yet rich in career
opportunities. Those interested in a design profession will have this two-year period to pursue
comprehensive, foundational graphic design training. The final section in this review chapter
provides an overview of the graphic design field, professionally and educationally.

Design Pedagogy and Curricula

The workplace is searching for students who are creative thinkers, problem solvers and
proactive in acquiring new information and skills (Davis, et al., 1997). In an attempt to match
the demands of potential employers, a greater investment in developing these skills while at the
secondary level is paramount. A deeper understanding of current design pedagogy would
provide a basic foundation for curriculum development.

What is graphic design and what do graphic Designers do?

Graphic design can be found everywhere and anywhere in our everyday lives. It’s along the
streets, buildings, homes and in every shop or business centers. Due to its ubiquitous nature, it
doesn’t have a clear definition since it is dependent on cultural characteristics. Three major
components are needed when defining any profession: education, practice and theory. “A
graphic designer is a creative problem solver who is trained to conceive, plan and execute a design that communicates a direct message in an imaginative and visually arresting manner” (Resnick, 2003). Many individuals in the design field, regardless of what part of the world they come from, have difficulty describing their professional roles (Heller, 2005).

In 2006, America’s professional association of design (AIGA) and Adobe, a global leader in digital marketing and media solutions, embarked on a mission to define the roles of the future designer of 2015. Research findings birthed what is known as the “competencies for the future 2015 designer.” Ranked at the top was the ability to “create and develop visual response to communication problems, understanding of hierarchy, typography, aesthetics, composition and construction of meaningful images” (AIGA, 2013). The overall intent of this initiative was to provoke academic institutions to develop curricula based on the expectations of the profession (AIGA, 2013). Clear definition of the responsibilities expected by Uganda design professionals is key to setting the stage for the secondary level design curriculum.

As a graphic designer, one should be capable of visually communicating a message to inform and motivate the viewer. The design process comprises identifying and defining problems, gathering and analyzing information, determining performance, evaluating and selecting appropriate solutions (Lozna, 2012). Part of the process also requires one to go through numerous iterations before the final deliverable is established. Exercises proposed
through this curriculum will teach and motivate students to ideate, conceptualize and visualize
their solutions in interesting ways that corresponds to the intended goals.

*Graphic Design Pedagogy and Curricula*

Graphic design requires one to understand the same basic visual elements as those used in
painting, filmmaking, drawing, sculpture, architecture (Biggs, Heller, 2005). These elements
comprise of line, shape, texture, value, color, and space. How well they work together to
communicate unity, balance, rhythm and sequence message makes for a good design. Successful
curriculums should allow students ample time to develop this visual vocabulary and explore the
connection between elements and principles in order to effectively communicate desirable
messages.

Design thinking helps individuals ask questions, discover diverse solutions and work
together to shape new outcomes that change the world bit by bit (AIGA, 2013). It is more
important for students to learn how to think, ideate and conceptualize viable solutions to
problems than to learn theoretical facts that eventually become obsolete. In order to help
students develop ideation and creative thinking, instructor-guided critiques are essential.
Making sure that they recognize the importance of making numerous iterations guided by
critiques is key to learning the design process. This curriculum will incorporate these techniques sought after by employers in the design industry.

_Teaching Foundational Design_

Teaching fundamentals of graphic design should start as early as 13 years of age. It is important to familiarize students of basic design principles with which they can apply to page layouts, magazines, advertisements and lends itself as an excellent way of getting them interested in the field of graphic design. Even though there are some students who have natural talent and capable of becoming decent designers with minimum training, there are some who are an exception to this rule. “Untutored designers usually produce untutored design” (Heller, Fernandes, 2002). If a student does not understand the design process or its function, then “making marks on paper or screen is fruitless” (Heller, Fernandes, 2002). Equipping students with foundational design knowledge will help them improve their aesthetics as they go on to learn new skills.

_Technology in Design Education_

“A rapidly evolving technological context presents both challenges and opportunities for design education” (Grefe, 2012). Accessibility to resources determines how institutions’ curricula
adapts to software and technology changes within the industry (Grefe, 2012). Despite the fact that Ugandan secondary schools realize the need and importance of technological skills among their students, they are still challenged by inadequate resources and qualified instructors to teach necessary skills. Because of this void, technology resources are used for administrative purposes and less for the classroom (Newby et al, 2012). Even though technology is critical in the early stages of a design education, most agree that it is better to teach on the computer after the comprehension of design theory (Heller, 2005). With limited access to design software and technology at the secondary level, all exercises included in the curriculum will be executed through hand and craft skills, therefore setting the groundwork for technology in the future.

Classroom Participation and Engaged Learning

One of the biggest handicaps facing education at the secondary level is the inability to foster an environment that encourages creativity. Edgar Dale’s model of learning visual methods developed in 1946 suggests that individuals have a tendency to remember what they have learned by “doing and participating” in an activity rather than “visually receiving or verbally hearing” (Wright, 2010). Creating avenues for students to actively engage in class would combat the current norm of teacher-dominated classrooms and foster design knowledge retention. “Equitable class participation does not necessarily mean that all students are expected to
participate in the same way, or amount” (CIDR, 2008). Effective classroom participation means that all students partake in discussions in ways that will help them meet the learning objectives of the course. Strategies to ensure effective classroom participation include: discovering new material, peer-to-peer collaboration, exploring different perspectives and inviting students to relate material with relevant experiences (CIDR, 2008). If a student is engaged in any of the ways discussed above and classroom participation is achieved, then learning would be assured due to constant involvement in the subject matter (Bowen, 2005).

Engaged learning is a very important quality of any curriculum, and is one of the leading characteristics lacking and yearned for in the current Ugandan secondary education curricula. In order to keep students engaged and excited about studying design, the curriculum will involve exercises that encourage students to explore with materials that are familiar to the Ugandan culture. In addition, through peer-based collaboration, this program will help develop communication skills by encouraging group exercises and projects.
CHAPTER III
Research Methodology

Overview

The research logic model created at the beginning of this study was frequently revisited to ensure a smoother research process. Information was organized into three categories: purpose, actions and outcome. Each phase provided clarity on the method employed at a given time, explaining reasons for its use and the activities employed to fulfill the expected outcome. It also acted as a production schedule for all data collection strategies and methodologies. To view this research logic model, see figure 6, page 85.

After the review of all secondary information, there was a need for first hand data to help validate or invalidate assumptions before embarking on the creation of a thesis deliverable. These assumptions set precedent for the generation of interview questions. In order to identify research techniques needed to gather first hand data, a KWHL table was used to organize and pin point the necessary participants. Information was aggregated in the following categories; what we already know (K), what we want to know (W), how we intend to find it out (H) and what we hope to learn from our findings (L). To view list of assumptions and KWHL table, go to appendix A, page 90 and figure 7, page 88 respectively.

In establishing a clearer understanding of what the researcher needed to find out, the research techniques identified as proper drivers to retrieve this information included
interviews, surveys, observations and visual anthropology. Every method used in this research phase complimented the other. Participants in the United States and Uganda were sought-out through recruitment slips, word of mouth, online design forums and social media sites.

Information retrieved from the above methodologies was summarized and triangulated leading to the apparent truth and creation of personas that are representative of end users of the proposed curriculum. Through the use of these fabricated archetypes, an advanced secondary level curriculum was developed. The goal of this thesis study saw the development of the curriculum, however, post thesis plans involve testing this curriculum in Ugandan secondary schools.

The table below shows the audiences that were consulted during this research phase and the techniques used to gain information. The following is a summary and results of the various primary data-collection methods employed.

<table>
<thead>
<tr>
<th>KWHL TABLE SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SURVEY/QUESIONNAIRE</strong></td>
</tr>
</tbody>
</table>
| i) Uganda design professionals (employers) | i) Design educators  
- American  
- Ugandan  
- Abroad | i) Design agencies  
- Advertising agencies  
- Design Studios  
- Design Workshops | i) Design work  
- Print work  
- Web and 3d work |
| ii) Young Design employees  
- In-house  
- Freelance | ii) Design Professionals  
- In-house  
- Freelance | ii) Design Professionals  
- In-house  
- Freelance |
Preliminary Interviews

The initial round of interviews included a sample of full-time and part-time design educators who teach foundational design in four-year and two-year accredited public and private institutions in the United States. This diverse sample was used in order to gain a broader view of knowledge in teaching foundational design classes, running effective critics, classroom engagement and curriculum development increased. Since this segment of individuals differs culturally and economically from the Ugandan audience, information received from these interviews helped in setting the precedent for interviews and surveys with Ugandan educators and designers.

Surveys

A recruitment slip; which comprises the thesis proposal and consent form was sent to Uganda design professionals and recent university design graduates who currently work in the design field. Potential participants were identified through social media sites (Linkedin and Facebook), professional and government websites and Google search engine. Individuals who expressed interest in this study were then sent a survey with a list of questions pertaining to the current stature of the design industry, culture, young professionals in the field and the current
experience of attaining a design education. Furthermore, respondents who expressed interest in this research topic were recruited for in-person interviews and group discussions.

Two separate Qualtrics surveys were sent out; first to design professionals and then to recent design graduates and young designers. A total of 10 and 20 responses were received from the first and second surveys respectively.

Survey 1: Design employers’ results

Seventy percent of the respondents were between the ages of 24 and 30 while the other 30 percent was above 30 years of age. The number of respondents was not as large as initially hoped and this impart was due to the difficulty posed by geographical location and minimal online platforms used by Ugandan professionals.

When asked to rank the qualities they thought were most important when hiring a young designer, 80 percent of respondents said that they would hire young designers who were creative and showed the ability to visually translate messages before looking at their education level. They also agreed that potential candidates should at least have a secondary level certificate of completion. Ranked as less important was a degree in design from an institute of higher learning.
Other characteristics that employers deemed important included: the ability to learn the demands of the job, design portfolio, ability to communicate efficiently in English, a professional demeanor and proficiency in design software. These findings helped validate the value of a secondary level education when getting a job and stressed the need for motivated individuals.

When asked about the shortcomings of current design employees in the workplace, employers expressed dissatisfaction with their ability to solve problems, think critically and communicate design solutions with clients and creative directors.

Survey 2: Design employees’ results

The main target audience for this survey was individuals who were recent graduates or employees working in the design field. Sixty-seven percent of all the respondents were between the ages of 25 and 30.

Seventy percent of the respondents admitted to having taught themselves design, while the other 30 percent attained their education from design institutes and universities. This data validates the fact that approximately 60 percent of secondary level graduates cannot afford a design education as previously determined through the literature review.
Ninety percent of the participants attributed lack of funds to join a training institute as one of the major challenges in attaining a design education. One of the respondents said, “the design industry is still growing and over looked by the education ministry that does nothing to ensure proper education of prospective candidates.” Another participant said, “the education system is not tailored to make anything out of anybody until one gets to university, and even then, graphic design isn’t viewed as a prestigious course worth pursuing.” All respondents believed that having design as one of the options of study at the secondary level to be essential in preparing them for the workplace.

When asked to define their roles in the workplace, majority of the respondents stated producing appealing products, creating visually pleasing designs, concept development, creative direction and client servicing. This helped in the identification of responsibilities young designers need to be ready to assume once in the profession.

Interviews

A total of 26 Uganda design employers and employees were interviewed while in their working environments. Participants worked for either design studios that employed approximately ten employees, advertising agencies with in-house design and marketing teams and freelance designers and graphic designers within smaller workshops. A list of questions was prepared to
guide the interviews but a more informal and natural approach was taken through the interview to ensure easiness of both interviewer and interviewee. The following is a summary data collected according to the different categories of persons interviewed.

*Design employers*

Interviewing and shadowing Ugandan design professionals helped in gaining first hand knowledge in: qualities they deemed significant for aspiring professionals looking to join the industry, design practices within the workspace, expected roles of employees, segments within the design industry if any, technology literacy levels of employees and perceptions of design education. For list of interview questions, refer to appendix B, page 92.

When asked for their thoughts on how gaining a design education prepares young designers to join the industry, employers agreed that the quality of design education is one of the leading causes of unqualified aspiring young professionals in the market. Low design-literacy levels are a result of the high tuition costs at the University level where design education stems. One of the participates cites that, “majority of the design institutes are in the business of making money rather than equipping their graduates with the skills needed to join the labor market.” This is a testimonial given by one of the design professionals in an attempt to explain what is currently being taught in design institutes today.
I deliberately enrolled in one of the best PHP programming and web design institutes to gauge the quality of design education being accorded to young people today.

Textbooks used in class were seven years out of date and none matched the versions of the creative software being used on the computers. Sometimes it took up to 3 weeks (class met 3 times a week) for a teacher to solve one task described in the textbook leaving the students to figure it out on their own. Many times, design students with some degree of talent, took initiative and taught themselves via online blogs and tutorials like lynda.com. I gave up in disgust trying to learn anything about PHP programming from the design institute.

Employers noted University level graduates as being among the most unprepared candidates to enter the market specifically due to insufficient preparation. This shows that despite design education being available at the higher education level, many institutes of learning are unreliable and take advantage of the students by establishing high tuition costs and awarding substandard skills. Employers therefore, do not favor candidates based on their degree in design.

When asked about the different practices in the workplace, teamwork and collaboration were noted as essential to fulfilling client needs. A majority of the employees specialized in one or two areas of design; print, website, interaction or 3D design, textile and building material,
AutoCAD, social media and programming. Employers explained that since many employees teach themselves these design disciplines and are capable of learning only one area of design at any given time, by working in groups they learn from each other and also share ideas that could help inform the design process.

Some employers have taken initiative to train individuals who demonstrate higher natural talent and creativity. Three out of the five design studios visited offer an internship or software training program to prospective employees. One of the design studios had a four-month training program that allows interns to experience the design process by working with real clients. Employers believe this helps combat the lack of professional experience and give creative students, who do not have a formal education and opportunity to nurture their design skills and gain more working experience to make them more marketable. Another studio goes one step further and employs successful individuals within their company.

In regard to the design industry, professionals noted a general absence of knowledge of design as a profession. Many practicing designers in the labor market do not know what designers do and mistake it to be “computer generated art,” said one participant. This has gradually led to the devaluation of design both within the educational sector.

Due to the many ill-prepared design graduates and uneducated individuals working as professional designers, in the market, plagiarism of work has become an overwhelming
problem. The low value attached to design work coupled with the ease of crowd sourcing has led to the deterioration of the value of design from a professional and educational standpoint. “If you want to get a design job cheaply and quickly, then Nasser road is the place to go,” said one participant.

Nasser road is a street located in an industrial area of Uganda’s capital city, Kampala where design work of lower quality is commonly acquired. This quick, cheap, easy design attitude is killing the morale of young designers who are actually trying to branch out and be more creative. Some designers have resorted to specializing in web work to avoid plagiarism of their design work and uncertainties with production companies who do not have a good moral work ethic. If given more access to higher-quality design education, individuals interested in the field will have more opportunities to learn the fundamental aesthetic design principles, creative thinking and problem solving methods that they could bring to the work place and reduce the rate of duplication of design work.

Recent design graduates

In order to better understand their education and job seeking behaviors, young designers were interviewed both in person and group settings. This would later inform the proposed curriculum by determining the most appropriate exercises needed to help students attain these
skills. Below is a summary of findings from the various categories of participants that were interviewed.

The majority of young workers seem to go into the work force with limited skills in graphic design mainly due to the limited affordable avenues by which to get a design education. They seem to lack communication specifically when it comes to talking about their conceptual ideas and presenting to clients. This has been a big hindrance in their acquisition of design jobs.

There is also a common of problem when it comes to ideation and concept development because of the malpractice of copying work already published. This seems to be one of the most reoccurring barriers to growth in the Ugandan design industry. Hopefully when granted more access to design education, graduates will be equipped with stronger ideation skills that will in turn reduce the need to plagiarize.

Another reoccurring theme expressed by young design graduates was their inability to secure design jobs due to inadequate knowledge needed to execute design work required by employers. Majority of the interviewed designers admitted to having taught themselves through online platforms including Lynda.com tutorials, Google because of the high cost of design education at the university level. Despite this difficulty, proactive individuals have gone on to do well in the industry despite their lack of formal education. There’s a continued
validation that supports the introduction of a design curriculum at a level where it is more accessible to interested individuals.

Some of the cultural barriers that hinder young peoples education seeking behaviors involve the dictation of what to study by their parents. One of the participants mentioned that despite his passion for design and creativity, his parents made him pursue sciences at the advanced secondary level because "being creative will not put food on the table". Another participant added that, he became an engineer after persuasion by his parents but after a year of working, quit his job and decided to follow his passion of becoming a designer. Negative attitudes towards design education will gradually change with increase in the quality of design knowledge provided at the secondary level and number of young people acquiring jobs in the field. This is however not an issue the proposed curriculum can solve immediately in the long run.

Still in regard to education seeking behaviors, there is also a problem of over specialization in one area of design study. Those who opt to teach themselves are only able to take on so much and thus only learn one facet of design. This became a pattern as earlier noted in the interviews conducted with design employers.

When asked about tools or materials used in both the educational and professional settings, majority of the employees did mention a lack of exposure to computers while in
secondary school which made it harder for them to transition to the use of computers in the workplace. This lack of computer training while at the secondary level is a problem that is outside the scope of solutions proposed through this thesis since the acquisition of technology knowledge is contingent to availability of both resources and manpower overseen by the ministry of education sports. This curriculum will however endeavor to train students in foundational skills and pave the way for a smoother implementation of design ideas on the computer.

**Observations**

This research technique was used to provide unbiased insight into behaviors without interacting with the person(s) in question. Five design agencies were observed and visited throughout this process; two design studios with approximately 12 employees each, two larger advertising agencies with design departments employing more than 50 people and two design workshops.

While observing at design studio A, it was noticed that design employees worked in teams and often consulted with one another. A creative director, who is in charge of the whole team, manages and signs off on all the design work before production. This observation echoed that working in teams and collaborating on projects to be significant practices as previously established through interviews.
Group critiques were held to provide feedback to the person(s) working on a particular design job. Everyone in the design studio participated in the critique sessions regulated by the creative director. This was an important observation because it proved the value of critiques and iterations in the design process making them important attributes to instill in design students at the secondary level.

Through observations, it was also noted that the design studios and agencies used design software and apple computers to render their design work. With the recent surge in technology, there is so much more exposure and availability of software and computers thus the need for training programs. Employees also had access to smartphones, ipads, wicom boards, scanners and laptops computers usually provided through their work. This showed that the technology literacy levels were not as low as originally assumed.

It was also noted that majority of the employees were young individuals between the ages of 19 through 30 years. This goes to show that they young designers are becoming more self-reliant and interested in the design industry. Even though most of them were not fulltime workers, they seemed to have other smaller freelance projects that they were working on.
Design Educators

Ugandan design educators at both the university and secondary level were interviewed to gain more insight in the areas of teaching design education at the university level and preparing secondary level students for design education.

Through these interviews it was found out that the education system is not well equipped with resources to teach design at the secondary level. Educators are also not adequately trained to teach design principles except for those related to art education. It was also confirmed through these interactions that secondary level students pursuing art education at the advanced level are trained to become artists who can get jobs through commissioned work, art studios or opt to specialize in two-dimensional or three-dimensional art at the university level. Design education is a minimal part of the fine arts curriculum and includes only basic elements of any visual language like the use of lines, shapes, textures and compositions. Therefore students interested in design education are expected to learn on their own.

Visual Anthropology

To gain an even deeper knowledge of some of the cultural behaviors and practices of designers in the workspace, visual anthropology. Through viewing design work produced by young and experienced professionals, a perspective on the quality of work and design literacy levels would
be better informed. Due to the paucity in design education, it is assumed that there is so much design work that clearly depicts a lack of knowledge in the formal aesthetics of design.

Photos of current design work were studied and more insight was gained to help better understand the work produced by various companies. Through looking at photos taken in small design workshops, it was found that designers liked to work with their hands. The most common medium used for making some of this work was wood. While designing this curriculum, something to take into account are the different mediums that are accessible by students to execute their concepts.

The majority of the work on the street signs and billboards seemed cluttered; a lack of proper hierarchy and organization was apparent.

The computer generated design work seemed to lack a sophistication that the handmade work had. The level of precision in some of the patterns created by hand were much more impressive than the computer-generated designs. This also validates the need for foundational design skills to help set the tone for design work generated on screen.
CHAPTER IV
Research Synthesis

Design research frameworks and models were used to aid the organization and triangulation of the research findings leading to the actual

**Concept Map**

One of the research models used for research analysis was a concept map. Overlapping combinations of primary research techniques helped reveal and validate the apparent truth that eventually acted as a guideline for the development of the curriculum. The apparent truth was derived from patterns and reoccurring themes observed after the triangulation of literature review, surveys, interviews, visual anthropology and observations. Below is a summary of findings discovered from the research triangulation.

**Challenges Facing Design Education**

- High tuition costs that hinder young people from pursuing a design education
- Design education is only available at the university level
- Parents influencing children to study science verses the arts

**Perceptions of design**

- Design is mistaken for art
- Design is not considered a serious area of study by most people
- Some parents still value sciences over art-related subjects

**Qualities sought after by design employers**

- Creative thinking and problem-solving
- Team player
- Foundational design knowledge
- Design software knowledge
Opportunities

- Secondary level design curriculum is still a valid solution to make design education more accessible to more young people
- Proposed design curriculum is capable of providing greater awareness of the field of design
- Foundational design knowledge can help equip students with better skills to join labor market

Diagram below shows the areas of intersection and overlap leading to the apparent truth.
Figure 2 Concept Map Showing Triangulation of Data

Challenges Facing Design Education
- High tuition costs are a major hindrance for young people interested in a design education.
- Only available at the university level
- Parental influence children to study sciences

Qualities sought after by design employers
- Creative thinking
- Problem-solving
- Team player
- Foundational design knowledge
- Knowledge of design software

Perceptions of design
- Design is still not understood by most individuals
- Not considered a serious course of study
- Some parents still value sciences over art-related subjects

Insights for curriculum
- Secondary level design curriculum is still a valid solution to make design education more accessible to young people
- Capable of providing awareness to the field of design to students while in secondary school
- Foundational design skills can help prepare students with required skills to join labor market
- With the caliber of students enrolling in higher education, higher, this could in turn boost the quality of education offered at the university level.
**Personas**

Personas were developed to get a clearer definition of the end user of this curriculum. These fabricated archetypes were assembled as a result of attributes derived from data points actualized from first-hand accounts during interviews, observations and visual anthropology.

Throughout the synthesis of this research, patterns began to evolve and different characteristics were noted to fit specific demographics: social and economic statuses, technology literacy levels, educational interests, goals and family background. Data points were then organized, prioritized and paired with potential user audiences that fit specific demographics. After a rigorous process of iterations that included reorganizing of attributes, three fictitious individuals that best embodied the motivations, expectations, perceptions and goals of the ultimate user of this curriculum were formed. For complete list of data points and attributes used in this process, refer to appendix C, page 95.

While developing this curriculum, personas were used to help provide a hierarchical sense to the learning objectives of the entire program. Personas also provided a deeper understanding of what the current aspiring design student embodies: their goals and aspirations, their experiences in school and technology literacy levels.
The first persona is Jude, he is very artistic, has a passion for design and is interested in graphic design as one of his core subjects at the advanced secondary level. Even though he cannot afford a more rigorous education in design at the university level, he will go on to find a job in the market because he is proactive and determined. He is the biggest priority to keep in mind when designing this curriculum since the skills he acquires need to prepare him for a job. He represents individuals that have a passion for design, do not have the money to go to university and will therefore look for a job after completion of the secondary level.

Christine is the second priority while designing this curriculum. She represents those individuals who can afford a university education. She has an interest in the design field and needs to be better prepared for the more demanding study at the university level.

Even though Solomon is intrigued by design and would like to one day be an animator and work in the advertising industry, his parents are making him pursue science related subjects. For Solomon, this curriculum could help him see the career possibilities in the design field and in turn, persuade his parents to see design as a more valuable academic track.
Personas.

Jude | 18 years old

(Needs to get a job after secondary school since he cannot afford to further his education in design)

- Very artistic and "loves making art and design work for friends and family."
- Tech savvy, self taught designer, likes to work with his hands
- Has no access to a computer or design software but is intrigued by the few he has come across and hopes that he can learn how to use them one day.
- Wants to be an artist and graphic designer
- In his fifth year of secondary school and majoring in fine art as one of his core subjects since it’s the closest avenue to learning design.
- Cannot afford further education in design after secondary school

Christine | 17 years old

(will go on to University or private institution to pursue a career in design)

- Likes mathematics, design, and fashion.
- Interested in working in the film or design industry.
- Tech savvy, uses the internet to keep in touch with friends and informed on the latest trends in the design.
- Just finished her fourth year of ordinary secondary school and wishes to take graphic design (if it existed) as one of her core subjects at the advanced level.
- Can afford a design education in design after secondary school.

Solomon | 17 years old

(will pursue sciences at the university level but will learn the value of design)

- Is intrigued by web design and the design world and wants to one day “make sweet ads for TV.”
- He grew up playing video games and has a computer in his household.
- Both his parents have gone to college and graduated with degrees in medicine and engineering.
- Even though, he wants to pursue a design education, his parents are making him take science related subjects so that he can have more career opportunities.
- Solomon hopes that one day, after his college education, he can pursue his passion for design and become a web designer.
**POEMSTA** (*Persons, Objects, Environments, Messages, Services, Time and Activities*)

This framework helps with tagging and organizing observations of user interactions by giving them categories: Persons, Objects, Environments, Messages, Services, Time and Activities (Whitney, Kumar, 2003).

- **Persons**: Individuals involved in acquiring a design education or job
- **Objects**: Items interacted with during the experience of attaining a design education
- **Environments**: Places where individuals work or get a design education
- **Messages**: Perceptions individuals have towards the design education and profession
- **Skills**: Abilities students need to get a job
- **Time**: How long it takes to acquire design knowledge
- **Activities**: Tasks engaged in during the experience of getting a design education

The list of words in each category can be changed depending upon the context (Whitney, Kumar, 2003). Data collected from information gathered through primary research was organized into categories (see figure 8 for detailed list of categories) and interactions between the different categories were formulated. Diagram below illustrates this interaction.
Students (persons) use school supplies (objects) available for them to engage in new graphic design exercises (activities) during their advanced secondary level (environment) to learn technical design skills needed to compete for entry level design jobs or pursue a more rigorous study at the university level.

How, Think, Do, Use model

The How, Think, Do, Use research model helped to better understand the perceptions and attitudes of the personas towards a design education. Areas of greatest opportunity for this curriculum were identified through the How, Think, Do, Use model which is representative of:

how they acquired a design education, what they think about their education experience, what they do with their acquired skills and what they use during their educational experience. The graph below shows a comparison of the current attitudes toward design education and
highlights areas of greatest opportunity for the proposed curriculum.

This graphical illustration uses a vertical scale approach to gauge the current perceptions of how Jude, Christine and Solomon gain design knowledge, what they think about it, what they do with their education and what resources they use while gaining this information.

![Graphical illustration of current perceptions of design education through the How, Think, Do, Use model.](image)

Jude’s current perceptions of design education

Jude cannot afford a design education at the university level therefore how he acquires design education is low. Even though he believes that design education is important, he knows that the current education structure makes it available only for a selected few. Jude is proactive and aspires to be graphic designer one day. He does not own his own computer or design software, therefore makes design work out of available materials.
Christine’s current perceptions of design education

Even though Christine can afford a university design education after secondary school, she does not think that the current education system prepares individuals for the rigorous study at the university level. Because of her passion for design, Christine is interested in one day working in the film or design industry. Despite the fact that she owns a laptop, she is not able to use it to generate design concepts because she lacks foundational knowledge in design.
Solomon’s current perceptions of design education

Even though Solomon is intrigued by design, he is not able to acquire a design education because his parents are making him pursue sciences because they do not see a design education as a practical option for a career in future.

Having identified the areas needing the most urgent change, suggestions were made to make this experience better and illustrated in the graph shown below.
**How:**

There's an opportunity to affect how young people get a design education by increasing its accessibility through introducing a foundational curriculum at the advanced secondary level.

**Think:**

There's an opportunity to change the negative perceptions individuals have towards design by equipping them with knowledge about design and its career opportunities.

**Do:**

This curriculum can indirectly influence what young people do with their design knowledge by providing them with awareness of the competitive job opportunities available for them.

**Use:**

Individuals will learn foundational design skills using current available resources.

This model helped in determining the areas that this curriculum could most affect the how, think, do and use phases. The most urgent opportunity is increasing the avenue to access
design education by introducing it at the advanced secondary level. Changing individuals attitudes towards design and increasing awareness about availability of jobs and careers in design. Due to inadequate availability of technology and software resources at the secondary level, this curriculum will involve exercises that can be executed by hand and pave the way for future use of technology.

Below is a diagram illustrating a side-by-side comparison between the current perceptions of design and the proposed perceptions of how young people acquire an education, what they think about it, what they do with and how what they use while attaining that education.

![Comparison between current perceptions and proposed future perceptions](image)

How, Think, Do, Use side-by-side comparison of current and proposed perceptions.
Having validated and evidenced the need for a new design curriculum at the secondary level as a viable solution to the paucity in design education and lack of skilled individuals to fulfill labor market needs, the next step was development of the curriculum.
Chapter V
Results

Curriculum Development

Before developing this curriculum, it was important to explore different programs that were teaching design to students between the ages of 13 through 18. The programs included; “this is my Philly”, “Shout”, and Inspire camp. Since there currently aren’t any design programs targeted towards secondary level students in Uganda, a comparative analysis of design programs within the U.S was carried out and areas identified to help inform the curriculum. Below is a summary of the analysis and how they informed the curriculum. For details, see appendix D, page 98.

Comparative Analysis

This is My Philly: A design workshop

This program consisted of three-hour workshop sessions to help students learn the power of images and written word and promote design as a viable career option to inner-city elementary students. Students were encouraged to use the five senses (feel, taste, hear, and smell) to identify areas that they wanted to highlight, write a poem about and illustrate. Guiding them through brainstorming exercises in pairs proved to also be a much more effective way of being efficient. Encourage all ideas and help them narrow down to the best concepts. Through this workshop, ideas for group brainstorming exercises and use of the five senses were perceived and
recommended as learning strategies to consider.

*Shout: A high school design studio*

Students were enticed about the field of design by helping them see the value of design in solving community and social issues in their environment. Participants were engaged and motivated by focusing on Philadelphia’s positive qualities as well as community development and maintenance. This project acted as inspiration of how you can get high school students to use their own voice and design to relay a message. Bringing awareness into their communities on different issues helps to shed a positive light on design education and power of creative thinking.

*Inspire: A summer creative camp*

Through turning the classroom into a laboratory for learning, inspire camp maintained student engagement by having them explore with new materials during exercises. One-on-one critiques with the professors proved to be more effective at the beginning since the students were able to ask as many questions as possible without fear or intimidation from their fellow peers. During the workshop, design professionals talked with students about their responsibilities, work and process in the work place. Students had a positive feedback towards these presentations and were able to ask some questions pertaining to the working environment. This helped give them
a much better idea of various career options within the field of design. In order to get young
people more excited and aware about design as a possible career choice, willing professionals
will be sought out to help mentor and inspire students while still in school.

These three programs helped in providing examples of successful hand-made
deliverables that do not require the use of technology. Insight was also gained on how to
structure a curriculum so that it encourages active learning by incorporating exercises that keep
students excited to learn and foster creativity.

5E experience model (Entice, Enter, Engage, Exit, Extend)

This curriculum is a proposed solution to help improve the experience of attaining a design
education, by making it more accessible to individuals, preparing participants to join the labor
market or pursue a more rigorous study at the university level. The proposed curriculum was
applied to the 5E model to illustrate the proposed experience of seeking a design education.

1) Entice: What fosters anticipation and sets expectations for participation?
2) Enter: How does the experience begin?
3) Engage: Activities and interactions that individuals undertake during the experience.
4) Exit: How do participants transition out of the experience?
5) Extend: How do participants further their experience and maintain a connection
   with the experience?

Individuals will be enticed by introducing this curriculum at the advanced secondary
level. This level is more accessible and affordable compared to the university design education.

Making individuals aware of the available job prospects this field offers will also help in getting them interested in pursuing design.

In the enter phase, students will need to successfully complete four years of ordinary level secondary education and choose graphic design as one of their core subjects.

While enrolled in this program, students will participate in a total of six core courses coupled with studio-based elective classes over a period of six eight-week terms. They will be evaluated based on their success in meeting the set learning objectives. Each course unit will include the course description, learning objectives and evaluation methods. However, since this curriculum is still in its proposal stages, all exercises can be changed and altered to suit available resources as long as the set learning objectives are still achieved.

When exiting this experience, students will graduate with a physical portfolio including examples of their design work and skills to help them compete for beginner level jobs or pursue a more rigorous study at the university level. Exercises suggested in this curriculum conclude with a deliverable that participants can include in their portfolio.

This experience can be extended through participants getting beginner level jobs and gaining more hands-on experience or at design jobs, pursuing a more rigorous study at the university
level.

**Curriculum**

**UGANDA ADVANCED SECONDARY SCHOOL DESIGN EDUCATION CURRICULUM**

This is a two-year curriculum for students at the advanced secondary level and chosen to pursue graphic design as one of three core courses. The goal of this program is to bring more awareness to a field that is currently overlooked yet rich in career opportunities. Graduates from this program will have a physical design portfolio with examples of all their work to help prove their creative ability in solving problems and communicating through visual messages. They will be equipped with skills to compete for beginner level design jobs or join institutes of higher learning for a more comprehensive study in design.

**Curriculum philosophy**

The curriculum will embody different facets of graphic design and provide a foundational knowledge in design principles to pave the way for technology use. Teaching philosophy will promote active learning, collaboration, creative thinking and problem-solving techniques in the design process coupled with exploration of new perspectives and materials to encourage designing within the Ugandan context.

**Learning objectives of curriculum**

Primary objectives:

Learn what graphic design is and its purpose and possible career paths
Learn the foundational design principles
Learn typographic anatomy and different type styles
Learn to effectively communicate visual messages using images, type and available materials
Learn how to develop ideas and turn them into strong concepts (design process)
Develop ability to think critically and solve problems
Develop good craft and presentation skills

Secondary objectives:

Understand how to design on 3D surfaces and environments
Learn to work in teams and collaborate
Learn the history of graphic design and African graphic design

**Class Structure**

Students will be required to take six-core design courses coupled with studio-based electives. These electives like drawing, painting, technical drawing which are currently taught in art education to provide for a smooth transition to the new graphic design classes and provide extra time to improve on skills and principles demanded by the core courses. The two-year program follows the current Uganda secondary school year that is divided into three eight-week long terms per year. In their first year, students will study Introduction to graphic design principles, Introduction to typography and 3D design alongside drawing, technical drawing and 3D studios. In their second year, they will take Illustration, Graphic Design I and II alongside painting, Independent study and Portfolio class.
## YEAR ONE

<table>
<thead>
<tr>
<th>TERM 1</th>
<th>TERM 2</th>
<th>TERM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINCIPLES OF GRAPHIC DESIGN</td>
<td>INTRODUCTION TO TYPOGRAPHY</td>
<td>3D DESIGN CLASS</td>
</tr>
<tr>
<td>DRAWING</td>
<td>TECHNICAL DRAWING</td>
<td>3D STUDIO</td>
</tr>
</tbody>
</table>

**Learning Objectives**

- Learn foundational principles of design.
- Learn typographic anatomy, characteristics and different styles.
- Learn how to make dynamic compositions and layouts.
- Learn design vocabulary and application of principles to compositions.
- Understand how to design on 3D surfaces and environments.
- Develop good craft skills.

---

## END OF YEAR BREAK

---

## YEAR TWO

<table>
<thead>
<tr>
<th>TERM 4</th>
<th>TERM 5</th>
<th>TERM 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILLUSTRATION and COLOR THEORY</td>
<td>GRAPHIC DESIGN I</td>
<td>GRAPHIC DESIGN II (Final project)</td>
</tr>
<tr>
<td>PAINTING (color theory)</td>
<td>INDEPENDENT STUDY (Social awareness class)</td>
<td>PORTFOLIO CLASS</td>
</tr>
</tbody>
</table>

**Learning Objectives**

- Reinforce design principles through application of layouts and compositions.
- Learn to communicate visually through image and type.
- Learn to develop ideas and turn them into concepts (design process).
- Learn how to think critically and solve-problems.
- Learn how to effectively work in teams.
1ST YEAR CURRICULUM

FIRST TERM I (Principles of Graphic Design)

Course Description
Being the first course that students take, this classes will first and foremost give students a general introduction to what graphic design is and highlight some of the expected roles and career opportunities available for students after they graduate. Secondly, students will learn the basic foundational elements and principles of design. Principles of design (contrast, hierarchy, spacial intervals, balance and repetition) define the structural foundation of any composition. This course will include short (20-30) minute instructor-lead presentations introducing different principles in relation to the exercise. Ample in class work time is recommended for this course to allow enough time to provide feedback to students.

Learning Objectives
1. Learn what graphic design is, expected roles and career opportunities in the workplace.
2. Understanding visual elements of design: point, line, value, texture, color, shape.
3. Learning the basic foundational principles of graphic design.

Grading
Grades will be awarded based on student execution of the design principles in their layouts, concept development, creativity, hand and craft skills. Both exercises will account for 80% of their final grade (40% each) and 20% for small in class exercises, following directions, attendance and classroom participation.

Outlined below are three examples of exercises which students can do over the course of 8 weeks. This is just an example of a class structure that can change depending on the institution.

The class will meet twice a week for a period of one and a half hours. Classes will include thirty minutes of instruction time by the professor which including a mini lecture on the basic principles.

Drawing Elective:
Students will develop their drawing skills with use of different line strokes and weights. They will also get an opportunity to use principles learned and apply them to their still life compositions and imaginative compositions.
Exercise 1: Dynamic Compositions

Use three squares, two inches each and arrange them in a visually interesting way on a ten inch board/frame. Attention will be paid to compositions that are symmetrical and asymmetrical and students will be challenged with understanding which is which. This same exercise can also be applied to illustrations and photographs.

Materials needed:
Pens, pencils, sketchbook pad, note book, rulers, eraser, tracing paper.

Step 1:
Students will be given a small lecture on basic characteristics of a good composition making sure to highlight the differences between symmetrical and asymmetrical compositions and a static or dynamic relationships in composition.

Part 1: Using three squares demonstrate a symmetrical composition
Part 2: Using three squares demonstrate an asymmetrical composition

Symmetrical composition                 Asymmetrical composition

Step 2.
Part 2. Using three squares, demonstrate a dynamic composition.

Static composition                            Active/dynamic composition
Exercise 2: Space Relationships
This exercise helps students to define space through the arrangement of elements and value. How interval spacing of elements creates an illusion of space

Materials needed:
Pens, Pencils, sketchbook pad, note book, rulers, eraser, tracing paper.

Step 1:
Using four squares of two inches in dimension, students will be tasked with demonstrating the illusion of space through placement of elements. Attention will be paid to corners, interval spacing and overlapping.

Deliverable

Step 2.
Students will be using squares of varying dimensions and values to demonstrate space. Attention will be paid to varying square proportions and characteristics of good compositions (hierarchy, balance, contrast).

Deliverable

Step 3
Students will add a linear element to one square in their composition studies while keeping them dynamic and active. The purpose of this exercise is to have students learn how smaller captions relate to dominant elements for instance of photo journalism, photographs, illustrations etc.
Deliverable

Step 4
For their final compositions, students will use actual images from magazines, books, newspapers to make page layouts. They should have a dominant image and caption to go along with the image.

---

**Week 1** (Sample class project schedule)

Day 1.  
Introduction to graphic design and project overview  
Design principle overview (20mins)

HW:  
Bring in inspiration for layouts, could be from magazines, books

Day 2.  
Rapid sketching exercise  
Allowing for only three minutes each, sketch different ideas for layouts.  
Small critique on layouts (instructed by teacher)

HW:
Refine book cover design. Bring in some sketches for the images (illustrations/drawings) to be incorporated on book cover.

---

**Week 2**

Day 1.  
Mini lecture of designing book covers, teacher brings in some inspiration to discuss some ideas of good layouts. Refine sketches and get critique on layouts.

Day 2.  
Preliminary critic on sketches

---

**Week 3 and 4**

Transferring designs to paper Using color/painting and final iterations
SECOND TERM I Foundations of Type

Course Description
This course builds off of the basic principles class and aims to reinforce the design principles through the study of typography. Students will learn the basic anatomy of type through careful study of individual letter forms. Different type styles and history of the African alphabet will be incorporated in the course. Basic characteristics of type (form, counter shapes, thick and thin etc.) will be emphasized to help gain an in-depth appreciation and understanding of type.

Learning Objectives
1. Learn type anatomy (x-height, counter space, ascenders, descenders)
2. Learn basic type styles and African alphabet.
3. Learn to see type as abstract form and make visually interesting compositions

Secondary objectives
4. Technical skills through technical drawing class

Grading
Grades will be awarded based on students understanding and development throughout the study of the typographic anatomy, styles, and history.

Exercise 1: Type anatomy
Typography is the art of designing with type. Type is the term used for the letters in the alphabet, the numbers and punctuation marks. In this exercise, students will learn the typographic anatomy and vocabulary.

Materials needed:
Pens, Pencils, sketchbook pad, note book, rulers, eraser, tracing paper.

Step 1:
Mini lecture and presentation on different type styles; (old style, Egyptian, transitional, modern)

Step 2:
Instructors will present students with a template with a word (s) that contain all the letters of the alphabet and students, will use tracing paper to draw over the letters.

Step 3:
The traced words will carefully be filled in using HB pencils and each part of the letter form named.
Exercise 2: Type as abstract form.

Type is understood as a basic design element that is comprised of shape and form. As a form, type contains the design elements of line, shape, texture and size. The main purpose of this exercise is to develop student’s capability in viewing type as form rather than its basic function as a vehicle of communication. This will enable students appreciate the actual form of each letter and explore their creative potential.

Materials:
Marker paper, tracing paper, pencils, rulers, markers, type print outs, magazines/newspaper, blackboard for final.

Step 1:
Students are assigned a letter and work with both the serif and sans serif. Students then trace the letter form assigned to them and examine the forms and counter forms of their letters.

Step 2:
Figure ground relationships will be explored with letter forms and students will be allowed to use their letter form up to three times in the same composition.

Step 3:
Add a geometric shape (circle, square, triangle) and a linear element (could be lines or curves). Even though students are allowed to use letter forms more than once, they should aim for simplicity through size and scale contrast.

Initial sketches should be quick with many iterations. Draw small 2 inch squares on a sheet of paper and as many as 10 different compositions with the letter form.

Deliverable examples:
Exercise 3: Typographic exploration

This exercise will give students the opportunity to explore and experiment with making a new alphabet that is inspired by their cultures. They will read and take inspiration from Saki Mafundikwa’s book on African alphabets which illuminates indigenous African graphic art tracing all the way back to ancient Egypt. Basic characteristics of type will still be emphasized through this process.

Materials needed:

Pens, Pencils, sketchbook pad, note book, rulers, eraser, tracing paper.

Step 1:

Step 2:
Critiques and iterations till due date.

Deliverable:

Students mount final designs on durable board or material equivalent to illustration board.

Inspiration:
THIRD TERM I (Introduction to 3D design)

Course Description
Building off of introduction to typography, students in this course will experiment with various materials available for them to make three dimensional letter forms.

Learning Objectives
1. Learn how make and develop 3D letter forms.
2. Learn how to work with form and proportions to scale
3. Recognize the relationship between Shapes and forms

Grading
Grades will be awarded based on student execution of the design principles in their layouts, concept development, creativity, craft skills. Both exercises will account for 80% of their final grade (40% each) and 20% for small in class exercises, following directions, attendance and classroom participation.

Exercise 1: 3D letter forms
Students will explore and experiment with different materials to build 3D typographic letter forms. Attention will be paid to the formal characteristics of letter forms learned in typography class.

Materials needed:
Experiment with any materials available.

Example of final deliverable:
2ND YEAR CURRICULUM

FOURTH TERM | Illustration/color experimentation

Course Description
Through this class, students will learn how to recognize visual values in color and design work. Experimentation with intertwining imagery, type and color, to create interesting and dynamic compositions is encouraged. Compositions can be collaged, painted or photographed for final deliverables. Students will make compositions that incorporate different values (lights and darks) and hues.

Learning Objectives
- Learn how to be visually sensitive
- Learn the major color systems
- Learn basic color terminology (Hue, intensity, saturation, shades, tints).
- Learn the relationship between color and culture. The symbolic associations with color differ from culture to culture.

Recommendation
Color studies should be done with either cut or torn paper. This will allow for free and quick explorations of various color amounts and compositions. Students are also encouraged to put there work on the floor or wall for evaluation (Albers, 1958)
In this course, students will continue to develop their understanding of design through the interaction of design elements and principles learned in their first year. The design process (ideation to conceptualization of viable solutions) will be learned as well as critical thinking. Two main projects will be done throughout the 8 week course.

**Learning Objectives**

1. Develop design principles through composition/layout exercises.
2. Learn how to develop ideas into concepts (brainstorming and ideation)
3. Learn how to think critically and use their intuition to see rather than look.

**Grading**

Students will be given grades based off of satisfactory execution of the design principles in their layouts, concept development, creativity, hand and craft skills.

---

**Project 1: Book/magazine cover design**

Students are tasked with designing a book cover on a topic chosen by the instructor. Instructor can choose to provide supporting text or leave it up for the student to research. Final book design will be painted.

**Objectives**

- Implementing design principles
- Understanding concept development
- Communicating a message in a visually interesting way

**Deliverable**

- Book cover (Front, back and spine)

**Materials**

- Pencils, pens, sketch book, colored pencils, paints or pastels, erasers.
- Thicker paper for final painting (Painting paper)


Week 1 (sample project schedule)

Class 1
In class: Project overview
Design principle overview (20mins)
HW: Bring inspiration for layouts, could be from magazines, books, etc. Go to school library

Class 2.
In class: Rapid sketching exercise
Allowing for only three minutes each, sketch different ideas for layouts and repeat exercise in your sketch book.
Small critic on layouts (instructed by teacher)
HW: Refine ideas book cover design. Bring in some sketches for the images

Week 2

Day 1.
In class: Mini lecture of designing book covers, teacher brings in some inspiration to discuss some ideas of good layouts.
Refine sketches and get critic on layouts.

Day 2. Refine sketches and get critic on layouts.

Week 3 and 4
Initial painted designs, final iterations and project is due.
Exercise 2: Poster Design

In this exercise, students will continue to build on their knowledge of design principles to create dynamic layouts. They will be required to make a poster design to highlight one aspect in their school. The goal of this project is to get students thinking about socially responsible design. Students will use their five senses (touch, smell, see, hear and feeling) to identify one aspect within their community that stands out to them. They will then create a short positive messages to incorporate in their design concepts.

Objective
- Strengthen design process
- Learn how to be creative
- Making socially conscious design.

Deliverable
- Poster design
- Posters will be put up around the school or showcased in a small show type setting is possible

Materials
- Pencils, pens, sketch book, colored pencils, paints or pastels, erasers.
- Think weight paper for final painting (Painting paper)
Course Description
During graphic Design II, students will get the opportunity to learn how to work with clients and design for somebody else. This course will give them an opportunity to work in teams and give them a clearer idea of what the work environment entails.

Learning Objectives
1. Enhance design principles through composition/layout exercises.
2. Strengthen ideation to concept development skills
3. Learn how to design a logo
4. Learn how creative thinking

Grading
Students will be given grades based off of satisfactory execution of the design principles in their layouts, concept development, creativity, hand and craft skills.

Problem 1: Logo development
Students will learn how to develop different types of logos which could be marks or typographic. Students are asked to bring in any object that they bought from a grocery store, shop that already has an established brand and market and design a new logo and promotional pieces for that product. This could be a poster, flier, package, post card etc.

Objectives
• Learn how to develop logos
• Develop ideation and concept development techniques
• Learn creative thinking and problem-solving

Deliverable
• Logo/identity mark mounted
• Promotional piece in which ever medium students choose to use

Materials
• Pencils, pens, sketch book, colored pencils, paints or pastels, erasers.

Problem 2: Social awareness group project
Students will have an opportunity to use their design skills and bring awareness on a social issue within their environment. This problem could include bringing awareness to HIV/AIDS, girl child education, sanitation and healthcare etc. Instructors will help guide students on the scope of the issues they want to bring awareness to.
The main challenge would be to sensitize their fellow students and school community on this issue. At the end of the project, deliverable which includes posters will be hang up around the school or at a small show where the rest of the students and staff will be invited to see what the students came up with.

The hope is that through community outreach projects like this one, individuals will gradually change their perceptions on a design education and see the power of design in communication.
**Conclusion**

This thesis study resulted in a proposed design education curriculum for advanced secondary level students in an attempt to help widen the scope of design education. The program is designed to equip individuals with required skills to compete for available jobs or pursue a design degree at the university level. This will in turn shed more light on design as a viable career path and help combat the high unemployment levels amongst young people as previously stated in the thesis proposal. This curriculum was developed as a guideline for design educators who can then modify the exercises to suite available resources to meet the set learning objectives.

With the National Curriculum Development Center currently revamping the secondary level curriculum, this thesis curriculum will be suggested for the advanced secondary level and plans will be made for prototype testing and further development if permitted. An online blog that was created for this thesis will continue to act as a platform for future conversations on design education in Uganda.
List of Figures
Figure 3 Secondary and University Education Enrollment Percentages
Figure 4 Secondary and University Level Enrollment Progression
Figure 5 Primary and Secondary School Enrollment Progression
<table>
<thead>
<tr>
<th>Purpose</th>
<th>Literature Review</th>
<th>Contacts</th>
<th>Secondary Research</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gain better understanding of topic</strong></td>
<td></td>
<td>Establish contacts with design educators and professionals in the United States, Uganda and Abroad.</td>
<td>Information gained will help aid my primary research when I start diving in deep.</td>
</tr>
<tr>
<td><strong>Establish connections with individuals to send surveys and questionnaires.</strong></td>
<td></td>
<td>U.S contacts: Contact design educators in the United States, Uganda and abroad</td>
<td>More concentrated areas of focus and additional</td>
</tr>
<tr>
<td><strong>Areas of focus include; Uganda secondary education, curriculum development, design education</strong></td>
<td></td>
<td>Sources:</td>
<td>Sources:</td>
</tr>
<tr>
<td><strong>Sources:</strong></td>
<td></td>
<td>- Scholarly articles</td>
<td>- Scholarly articles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Journals</td>
<td>- Journals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Government/embassy websites</td>
<td>- Government/embassy websites</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Newspaper articles</td>
<td>- Newspaper articles</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Books</td>
<td>- Books</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Academic papers</td>
<td>- Academic papers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Publications</td>
<td>- Publications</td>
</tr>
<tr>
<td><strong>Broader understanding of topic and a clear understanding of areas of focus for an in depth study.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Get more insight from areas to consider and research about in my more in depth secondary research.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6 Research Logic Model
### Research Logic Model

<table>
<thead>
<tr>
<th>Period</th>
<th>Field Ethnography</th>
<th>Preliminary Interviews + Survey and Questionnaire</th>
<th>Summary Document + Ugandan Contacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>April - August, 2012</td>
<td>To gain first-hand experience in developing a curriculum for high school kids.</td>
<td>These will help clarify questions raised from secondary research.</td>
<td>Basic organization of secondary research, derivation of assumptions.</td>
</tr>
<tr>
<td>October - December, 2013</td>
<td>Help in identifying persons to interview while in Uganda.</td>
<td></td>
<td>Preparation of interview questions for Ugandan target audiences</td>
</tr>
<tr>
<td>January - March, 2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Purpose
- **To gain first-hand experience in developing a curriculum for high school kids.**
- These will help clarify questions raised from secondary research.
- Help in identifying persons to interview while in Uganda.
- Basic organization of secondary research, derivation of assumptions.
- Preparation of interview questions for Ugandan target audiences.

#### Actions
- Assisted professors Rinnert and Coorey during inspire camp.
  - Duties: Helped design 3D curriculum for the one week camp.
  - Lectured and helped mentor students during camp.
- Conducted Phone and Online interviews with design educators both in the U.S and in Uganda.
  - Categories of individuals to interview:
    - Design educators both in Uganda and the United States teaching foundational design courses.
    - Educators specializing in curriculum development.
    - Designers without borders representatives who have worked in Uganda.
- Used text edit to organize primary research findings.
  - KWHL table to identify what I know, Want to find out, How I plan to find out and what I intend to learn from it.
  - List of assumptions
  - Interview questions

#### Outcome
- Learned how to teach foundational design to students.
- Get a better understanding of questions to include in survey and questionnaires when conducting primary research in Uganda.
- Information was organized and primary research data was

---

Figure 6 Research Logic Model
## Research Logic Model

<table>
<thead>
<tr>
<th>UGANDA PRIMARY RESEARCH</th>
<th>RESEARCH SYNTHESIS</th>
<th>CURRICULUM DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PURPOSE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>These will help clarify questions raised from secondary research.</td>
<td>Help in the organization and triangulation of research.</td>
<td>Final deliverable of thesis research</td>
</tr>
<tr>
<td><strong>ACTIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conduct Phone and Online interviews with design educators both in the U.S and in Uganda.</td>
<td>Write and organize document</td>
<td>Write curriculum philosophy</td>
</tr>
<tr>
<td>- In person interviews with design professionals and recent graduates.</td>
<td>Use models learned in class:</td>
<td>Develop structure for classes</td>
</tr>
<tr>
<td>- Visual anthropology within the city center.</td>
<td>- KWHL table</td>
<td>Develop learning objectives and exercises</td>
</tr>
<tr>
<td>- Big 6</td>
<td>- 5E experience model</td>
<td></td>
</tr>
<tr>
<td><strong>OUTCOME</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Get a better understanding of questions to include in survey and questionnaires when conducting primary research in Uganda.</td>
<td>Help in triangulation of research and give clear focus on Ugandan primary research</td>
<td>Advanced secondary level design curriculum</td>
</tr>
</tbody>
</table>

Figure 6 Research Logic Model
<table>
<thead>
<tr>
<th>K</th>
<th>What do we already know</th>
</tr>
</thead>
<tbody>
<tr>
<td>• High unemployment rate among young people today</td>
<td></td>
</tr>
<tr>
<td>• Free primary and secondary education for all children</td>
<td></td>
</tr>
<tr>
<td>• Expensive university education, only 40% enrollment level</td>
<td></td>
</tr>
<tr>
<td>• 60% go on to look for jobs in the labor market</td>
<td></td>
</tr>
<tr>
<td>• Design industry is fast growing, employers looking for creative, proactive individuals to employ</td>
<td></td>
</tr>
<tr>
<td>• Only available design education is attainable at the university level</td>
<td></td>
</tr>
<tr>
<td>• Employers value a secondary level certificate of education</td>
<td></td>
</tr>
<tr>
<td>• Art lies at the root of design education</td>
<td></td>
</tr>
<tr>
<td>• Opportunity to introduce new curriculum at the advanced secondary level</td>
<td></td>
</tr>
<tr>
<td>• Need to change the perceptions that current students have towards art and design education, seen as a subject for academically weak</td>
<td></td>
</tr>
<tr>
<td>• Education system places higher value on science subjects</td>
<td></td>
</tr>
<tr>
<td>• There is a lack of essential resources that limit how design is taught. No computers at the secondary level.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>W</th>
<th>What do we want to know</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What designers design professionals deem as most important when looking to hire young designers for a beginner level job</td>
<td></td>
</tr>
<tr>
<td>• What kind of design work is being produced in the design industry</td>
<td></td>
</tr>
<tr>
<td>• Level of design work produced in the Ugandan design industry</td>
<td></td>
</tr>
<tr>
<td>• First hand data collection of education seeking strategies from current design professionals</td>
<td></td>
</tr>
<tr>
<td>• Design practices and expectations in the workplace</td>
<td></td>
</tr>
<tr>
<td>• Technology literacy levels at in the workplace</td>
<td></td>
</tr>
<tr>
<td>• How art and design education are currently being taught at the advanced secondary level</td>
<td></td>
</tr>
<tr>
<td>• How to teach foundational design courses</td>
<td></td>
</tr>
<tr>
<td>• Developing effective design curricula, and how to create an environment that fosters active learning among students at the secondary level of education</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>H</th>
<th>How we intend to find out</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Interviews and survey with design professionals</td>
<td></td>
</tr>
<tr>
<td>• Visual anthropology</td>
<td></td>
</tr>
<tr>
<td>• Interviews, Visual anthropology and observations</td>
<td></td>
</tr>
<tr>
<td>• One-on-one interviews with recent design graduates</td>
<td></td>
</tr>
<tr>
<td>• Observations and interviews</td>
<td></td>
</tr>
<tr>
<td>• Visual Anthropology and Observations</td>
<td></td>
</tr>
<tr>
<td>• Interviews</td>
<td></td>
</tr>
<tr>
<td>• Design Educators</td>
<td></td>
</tr>
<tr>
<td>• Design Educators, Inspre Campus</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L</th>
<th>What we can learn from what we find out</th>
</tr>
</thead>
<tbody>
<tr>
<td>• what the most important skills are needed by secondary level graduates to get a job</td>
<td></td>
</tr>
<tr>
<td>• We can find out whether because of the low design literacy rates, there is a cluster of poor design work</td>
<td></td>
</tr>
<tr>
<td>• To see if there is a clear definition or standard for what good design work should look like</td>
<td></td>
</tr>
<tr>
<td>• How important it is for a young designer to be proficient in use of design software</td>
<td></td>
</tr>
<tr>
<td>• Understand expected work culture in the workplace to better prepare students</td>
<td></td>
</tr>
<tr>
<td>• Understand the level of software and equipment used in order to recommend appropriate resources to students</td>
<td></td>
</tr>
<tr>
<td>• Comparative analysis to find out any successful programs to inspire the proposed curriculum</td>
<td></td>
</tr>
<tr>
<td>• Gain knowledge on how to structure design curriculum for secondary level students</td>
<td></td>
</tr>
<tr>
<td>• Incorporate lessons learned into proposed curriculum</td>
<td></td>
</tr>
</tbody>
</table>

© Penina Christine Acayo I 2013

Figure 7 KWHL table
<table>
<thead>
<tr>
<th>PERSONS + OBJECTS + ACTIVITIES + ENVIRONMENTS = SKILLS + JOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced level Secondary school students</td>
</tr>
<tr>
<td>Pencils/ Pens sketch book Paper painting supplies arts and crafts tracing paper</td>
</tr>
<tr>
<td>Drawing Painting Silk screening Tie and dye Technical drawing Entrepreneurship</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERSONS + OBJECTS + ACTIVITIES + ENVIRONMENTS = SKILLS + JOB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced level Secondary school students pursuing taking graphic design as one of their principle subjects</td>
</tr>
<tr>
<td>Pencils/ Pens sketch book Paper painting supplies arts and crafts tracing paper</td>
</tr>
<tr>
<td>Secondary schools</td>
</tr>
<tr>
<td>Typography Composition Page layouts 3D design Critical thinking Problem solving Presentation</td>
</tr>
</tbody>
</table>

Figure 8 POEMSTA
Appendix A
List of Assumptions
List of Assumptions.

- There were available career opportunities in the design industry
- Employers value a secondary level education
- 60% of employers shy away from university graduates
- Employers look for young individuals who are proactive, self-reliant and capable of learning quickly.
- Young people can get employment in the advertising, print, film and entertainment industry
- The advanced secondary level is a viable stage to introduce the new curriculum
- The ministry of education and sports is revamping the secondary level curriculum with implementation scheduled for 2015.
- 60% of secondary level graduates go on to look for jobs in the market.
- Secondary level education is free and affordable in public schools.
- The only available design education is at the university level.
- University education is expensive with high tuition costs.
- There is a paucity of computers and design software at the secondary level.
- Secondary level students have low technology literacy levels.
Appendix B
Interview Questions
**Interview questions: Design employers**

1) **Introduction:**
   a) What is your company and what kind of services do you provide?
   b) How many employees do you have in your establishment?

2) **Young designers:**
   a) Describe your process of recruiting young designers specifically recent graduates?
   b) What are some of the qualities you look for when hiring a young designer?
   c) Would you hire secondary level graduates for a beginners level design job? (Give reasons why or why not)

3) **Uganda design education:**
   a) What is your take on the current design education system? Does it adequately prepare young people to join the design industry?
   b) What would you consider to be some factors affecting design education in Uganda today?

4) **Design industry:**
   a) What are some problems affecting design as a profession in Uganda today?
   b) What are some of the challenges young designers face in the job market?

**Interview questions: Young designers and recent graduates**

1) **Introduction:**
   a) What is your current profession or job?
   b) What are some of your roles in the work place?

2) **Design education:**
   a) What’s your level of education? (Secondary level, university level etc.)
   b) Describe your experience gaining a design education or knowledge (Pay attention to any tools or objects used during the experience)

3) **Design industry:**
   a) Describe you experience in joining the design industry?
   b) What are some of the challenges you faced while joining the industry?
   c) Describe your experience in the workplace.

**Interview questions: Ugandan secondary level design educators**

1) What is your current profession or job?
2) How long have you been teaching design education?
3) How did you acquire design knowledge? (Educational background)
4) What are some of the challenges you encounter while teaching secondary level students?
5) What are some of the materials and objects you use while teaching design?
6) What should one have in mind when designing a curriculum for secondary level students?

**Interview questions: Ugandan secondary level design educators**

7) What is your current profession or job?
8) How long have you been teaching design education?
9) How did you acquire design knowledge?
10) What are some of the challenges you encounter while teaching design to students at the university level?
11) Do you have access to technology for pedagogy purposes?
Appendix C
User Persona Data Points and Attributes
List of attributes generated from primary research:

- Six years in college
- Majored in fine arts and crafts
- Majored in sciences because of parents influence
- Parents are all professionals
- Had freedom of choice to choose art in school
- Had a knowledge of computers while a teen
- Owned a computer while growing up
- Never used a computer until University
- Painting and drawing were majors
- Computer lab was used by a select few
- Learned Basic computer and php.
- Took an introduction to computer course
- Imaginative composition in ordinary level high school
- Drawing in high school.
- Inspiration from magazines and ads on TV.
- Worked while in vacation
- Self taught has his own computer
- Loves working with computers
- Wants to be challenged in design school
- There weren’t any available graphic design programs available for beginners
- Loves engineering but is fascinated by design
- Want to uphold the family name and make parents proud.
"Design is an expensive subject and for the wealthy".

Quotes

"Web design material in school is so outdated and the programs have become too specialized."

"All graphic related work was hand drawn."

"Had already learned “much” on my own so focused on painting and sculpture."

"Graphic design is a field of many traits and the problem with many universities is over specialization."

"Ambitious and hungry to learn something new."

"There’re not many schools that teach design."

"Always had an eye for good design, I appreciate it even though, I may might have the formal skills f design."

"developed love for computers while in secondary school."

"So an ad. by Solomon Benge and thought it was cool, it was better than what I am accustomed to seeing."

"Good ads. can’t be done here but in other countries."

"Titles are but strange."

"Always look out for people with zeal to challenge themselves."

"Some people will say anything to get a job."

"Always on the look out for fresh talent when hiring."

"Killing the creative minds, it’s all about the sciences."

"You can get everything you need to learn from lynda.com."

"Advertising agencies usually use freelance graphic designers."

"You first do lots of manual work before you can go onto the computers."

"Would have liked to learn more while in secondary school."

"Teaching yourself is the best option."

"Teachers are not that knowledgeable of the material being taught."

"The capable students don’t have a portfolio of their work."

"Ugandan design is business cards, brochures, logos."

"Lots of copying of others work downtown."

"Environment is not conducive for inspiration."

"Clients dictate what they want based off of what they see."

"Advertising agencies spearhead false design standards."
<table>
<thead>
<tr>
<th>Name</th>
<th>Participant 1 (Male)</th>
<th>Participant 2 (Female)</th>
<th>Participant 3 (Male)</th>
<th>Participant 4 (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGE</td>
<td>19 years</td>
<td>17 years</td>
<td>17 years</td>
<td>17 years old</td>
</tr>
<tr>
<td>HOBBIES</td>
<td>Playing video games, drawing cartoon characters</td>
<td>Drawing, painting, maths and hanging out with friends</td>
<td>Drawing, designing, making computer graphics for friends on the computer</td>
<td>Watching tv, reading magazines on the latest trends in fashion and design, photography</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>Public secondary school</td>
<td>Public secondary school</td>
<td>Public secondary school</td>
<td>Private secondary school</td>
</tr>
<tr>
<td>EDUCATION LEVEL</td>
<td>Fourth year ordinary secondary level graduate</td>
<td>Fourth year ordinary secondary level graduate</td>
<td>Fourth year ordinary secondary level graduate</td>
<td>Fourth year ordinary secondary level graduate</td>
</tr>
<tr>
<td>INFLUENCE ON EDUCATION</td>
<td>Both his parents have gone to college and graduated with degrees in medicine and engineering, therefore expect him to follow suit.</td>
<td>Parents encouraging her to pursue science related subjects because she has excelled in those classes.</td>
<td>Loves art and design, so will pursue his passion.</td>
<td>Wants to be like her dad, taking pictures, editing videos, design ads etc. He wants her to pursue a design education.</td>
</tr>
<tr>
<td>COMPUTER KNOWLEDGE AND ACCESS</td>
<td>Grew up playing computer games, comfortable around a computer and has access to one at home.</td>
<td>Knows how to check her email and keep in touch with friends through facebook. Goes to an internet cafe.</td>
<td>Doesn’t own a computer but has a friend who owns a computer printing shop where he can access a computer if needed.</td>
<td>Took a basic computer skills class while she was 14 years old.</td>
</tr>
<tr>
<td>DESIGN KNOWLEDGE</td>
<td>Is intrigued by web design and the design world but doesn’t have any training or practice in designing.</td>
<td>Likes design but pursuing sciences because of parents.</td>
<td>Has a passion for art but wants to learn how to use the creative software.</td>
<td>Been exposed to design through her dad’s small photography business.</td>
</tr>
<tr>
<td>WORK EXPERIENCE</td>
<td>Hasn’t had a job yet because he is always studying.</td>
<td>Never worked but volunteered with her local church teaching the elderly how to weave and make crafts.</td>
<td>Done some freelance design jobs for friends designing posters and painting murals.</td>
<td>Helped her dad with his photography business.</td>
</tr>
<tr>
<td>FUTURE ASPIRATIONS</td>
<td>Solomon hopes that one day, after his college education, he can pursue his passion for design and become a web designer.</td>
<td>Wants to pursue her creative side but parents want her to pursue sciences because being creative won’t put food on the table. (Starving artists)</td>
<td>Wants to be a graphic designer or artist.</td>
<td></td>
</tr>
</tbody>
</table>
Appendix D

Comparative Analysis
**THIS IS MY PHILLY**

**Description:**
This workshop involved three-hour sessions offered to inner-city elementary school students (ages 8 to 10), aided with help from 40 college students from Arcadia University, The Art Institute of Philadelphia, Moore College of Art & Design, Philadelphia University and the Tyler School of Art.

**Objectives:**
To promote the power of images and the written word.
To promote art and design as a viable career option.
To promote diversity in the field of graphic design.

**Enticement:**
Participants were motivated by focussing on Philadelphia’s positive qualities and community development.

**Deliverable:**
Students wrote poems which they illustrated with collages.

*Strategy:*
Students were guided through brainstorming sessions on how to use their five senses to identify their favorite community experiences. Paired with college volunteers, they proceeded to draw a map and highlight these special quirks within their surrounding. Word lists and phrases steered the creation of poems which were eventually illustrated using collages. Work was displayed and discussed in the afternoon.

**Effectiveness:**
Participants were able to share the pride and excitement felt for their city. Children learned to articulate their thoughts through design, writing and art. Tangible take away deliverable in the form of poem and collage.
Description:
Held twice a year, Shout encourages students (high school level) to use their voice in the creative process through building projects that better their communities. Individuals work in teams of 4 along side mentors or professionals.

Objective:
- To support Detroit high school art programs by providing opportunities to discover how creativity can be used to communicate messages.
- Implement tangible examples of how design can be used to positively impact a community.
- Learn basic graphic design principles.
- Become more aware of graphic design and its potential as a legitimate career path.

Enticement:
Participants were motivated through highlighting issues that needed awareness within their communities.

Deliverable:
1) Poster:
   How would you like to improve your community? (e.g. clean up, community water) Each student received 25 posters to hang in their communities.

2) 30-second PSA video
   What community issue or topic would you like to challenge an audience to take action on? (e.g. school bullying, safe sex)

3) Poster: Adult illiteracy in Detroit
   How do you inform adults that it’s never too late to learn to read?

Challenges:
Difficulty in balancing the length and timing of the program with the volunteers and mentors since it’s an after school project. Difficulty in giving the program a longer life that goes beyond the classroom. Teaching design in a very short amount of time without the distraction of technology on the creative process.

Effectiveness:
Input from parents and students showed that the students were excited about the program and has become an extension of their school art programs. The program has a 98 percent retention rate.
Description
This week long camp was designed to tackle a new area of study in the design field everyday. Each day involved a mini lecture from the professors that lasted anywhere from twenty minutes to one hour. These lectures were meant to give the students an overview of the particular field of design and introduce them to their project for the day which took from that day’s lecture. Students were given Individual one-one-critiques and also participated in a general group critique which helped inform their learning.

Objectives
Give students an overview of the foundational principles of design and introduce them to the different career opportunities in design.
Help students better prepare to join college by building their portfolios.

Enticement:
The camp attracted students who had completed at least their freshman year (14-19 years) of high school and were interested in design, illustration, creative thinking and photography. While applying for the camp, the students were not required to have a portfolio or school transcript to allow for a more diverse group.

Deliverable:
By building projects at design camp students will produce work they can submit as part of their entrance portfolio.

1) 3D Type
Using potatoes, students will carve letter forms and create compositions. Students learn about the history of printing, type anatomy and basic composition skills.
2) **Typographic Metaphor (Group Project)**
This problem deals with the enhancement of the meaning of words through thoughtful syntactic manipulation of letter forms.

3) **Type as abstract form:**
Working with either the serif or sans serif version of that type, students examined the forms and counter forms, isolate just enough of each letter to hint at its identity and strike a balance between positive and negative space.
REFERENCES


