Curriculum Model of Typography for Undergraduate Student by Using New Media: A Comparative Study

Mohamad Shahrizan Mohamad Sidik[1]*

[1] *Department of Creative Industries, Faculty of Communication and Creative Industries,*
    Tunku Abdul Rahman University of Management and Technology, Jalan Genting Kelang, Setapak,
    53300 Kuala Lumpur, MALAYSIA

*Corresponding Author: shahrizan@tarc.edu.my

Abstract

In Malaysia, the higher education institutions, IPTA and IPTS, that offer the curriculum of typography for undergraduate students in the graphic design department, are still practicing the method of teaching in a conventional way rather than in a modern way. Studies are focusing on the curriculum of typography, where the educators still use the conventional method of teaching to deliver the lectures rather than using the modern method of teaching in classrooms. Students will become bored if the educator uses the same method of imparting knowledge that was used twenty years ago. They are all born into a technological world that teaches them the quickest and most effective way to learn. The purpose of this study is to design and develop a new style of teaching the curriculum of typography using new media elements as a way to deliver knowledge to students in higher education. Using a qualitative research method, followed by a comparative study, the study will compare the best online learning for typography education that uses new media tools as a teaching method. The final stage is the development and design of a new curriculum model for typography using new media elements. Evaluation results showed all participants strongly agreed that this new method helped students be fast learners in the content of typography education. Sharing and managing curriculum content via online learning (E-Learning) can advance the knowledge by demonstrating a positive outcome, as demonstrated by the prototype test. This study on the curriculum model using new media gives a new perspective, showing that students at this stage really understand the content of the electronic learning and give good responses by answering all the questions, with the majority of participants giving a good response to the online courses.

1. Introduction

According to the statement from Wolfgang Weingart, from the beginning of the advertisement industry, typography has been a major element not only in the world of graphic design but also for other elements such as logos, graphical websites, and interfaces [1]. After all, the intensive investigation of the elementary typographic discipline is also the essential solution for complex typographic problems.

Based on the statement from Robert Bringhurst, typography is like a craft that enhances human language with a very reliable visual form and, thus, with an independent presence [2]. Typography also remains a source

of true satisfaction, true knowledge, and a very true surprise. As stated by Jerry Kelly, typography should first be trained on a historical and accurate basis. Just don't put a hope in or predict that those students will succeed in some of their aesthetic projects if they do not have the basic knowledge about type as a tool [3].

From the statement by Mercer Hall, why should teachers care about typography? It is because the purpose of typography itself is to communicate. Anything that refers to the classical definition is actually telling about the font families and typefaces and also about the most effective message for the most appropriate audience [4]. In Malaysia, the higher education institutions, the Institute of Higher Learning (IPTA) and the Private Institute of Higher Learning (IPTS), which offer a curriculum of typography for undergraduate students in the graphic design department are still practicing the method of teaching in a conventional rather than modern way.

We know that the environment keeps moving on, which is why the way we learn these days also changes over time. The researcher takes the example of teaching in a selected IPTS, focusing on the curriculum of typography, where the educators still use the conventional method of teaching to deliver the lectures rather than using the modern method of teaching in classrooms. We know that these days, students would be excited and love to learn any of the subjects in their course in modern ways of teaching. Therefore, the best teaching method that the researcher discovered for delivering knowledge is using new media as a tool of educational support material in the process of learning for higher education.

1.1 Background of The Research

This research intention is proven by what can be seen in today's teaching curriculum, which focuses on typography. The researcher figures out that the current way of conventional teaching is not effective with today's generation because of the time constraint, the prevention of major discussion on a particular problem, and also because there will be dissatisfaction from every student in the class, as stated by Shiu Ram [5].

Students become bored if educators continue to deliver knowledge in the same ways that they did twenty years ago. They are all born in the world of technology, which teaches them the easiest way to learn faster and with better understanding. By sharing and managing curriculum content through online learning, such as lectures, homework, quizzes, and tests, it helps students be well prepared for the class and yet helps the educators arrange the materials for the class much better and make it easier to track the performance of every student. So, the purpose of this research is to design and develop a new style of teaching the curriculum of typography using new media elements as a way to deliver knowledge to students of higher education.

1.2 Problem Statement

According to Novak, conventional teaching methods are concerning, with the educators being a part of controlling the process of the learning environment [6]. Educators' power and responsibility lie more in the role of instructor and decision-maker, focusing on curriculum content and some other specific outcomes. Students have knowledge gaps and require more information, and it's the educators' responsibility that makes the learning much better.

Johnson & Johnson argued that the process of learning is in between in the classroom and yet often competitive [6]. To master the knowledge, students are required to do the exploration and practise, and much more important is that the lesson content and delivery be good. Based on Marshall McLuhan's statement, in the present day, people all over the world will begin to understand and note that the new media is not only a mechanical means for creating illusions but also a brand new language with extraordinary powers of expression [7].

As stated by Shelley Gruendler, for students to be very good at graphic design, they all must boost their typographic knowledge. With the rapid pace at which our technologies have changed, sensibility and experience are necessary, and that begins with a good education [8]. It is difficult to teach typography well at this stage, and it's the educator's part to focus on the learning of typography, not the teaching of typography.

1.3 Significance of Research

Ilgin Niron stated that, to show the universal meaning, the environmental elements of the graphic design must be combined and worked together with the elements, which are typographies, colours, signs, and symbols, to create a new, unique language in communication [9]. According to C. Knight and J. Glaser, an intelligent graphic designer must desire to explore the use of typography. In order to communicate, there must be a balance between the visual and verbal aspects of a design [10].

In Markus Itkonen's article, typography is not only what creates images, it also must be easy to read and attractive [11]. Typography has a significant impact on readability. According to Emil Ruder, a printed work of typography that can't be read by people becomes a product without any purpose [12]. The definition of a good typographer is the point at which content and form meet together. In order to be a professional graphic designer, students should know the terms of graphic design itself [13].

As a graphic designer, they use various methods to combine words, symbols, and images to create a visual representation of ideas and messages. A graphic designer may use a combination of typography, visual arts, and page layout techniques to produce a final result. So, without proper teaching in the curriculum of typography, it will affect the whole study of graphic design.

1.4 Aims and Objectives

1.4.1 Aims

To develop a curriculum model of typography for undergraduate students by using new media.

1.4.2 Objectives

1.   To research the most current methods of typography.
2.   To study the curriculum of new media.
3.   To design a new curriculum model of typography.

1.5 Research Questions

1.   What are the elements of the most current methods of typography?
2.   How do we research on the structure of knowledge in the curriculum of new media?
3.   How does the new curriculum model look like?

1.6 Research Limitations

1.   The constraint on taking part in this research is time. The researcher found out that doing the comparative study might take some time to finish.
2.   What might be the constraint of this research is to find out what good content of a curriculum model might be the best content for teaching typography.

1.7 Research Delimitation

1.   The researcher limits his study to undergraduate students who attend the class of typography.
2.   The researcher will focus on the development of new media as support materials for teaching typography.
3.   The researcher will develop a new method of teaching for undergraduate students in the graphic department to attract them to studying typography.

2. Literature Review

2.1 Curriculum Model

2.1.1 Curriculum Model

As stated in Ask.com, a curriculum model is a part of instruction in a structured framework that guides all institutions around the world to teach at the same level based on the syllabus [14].

According to Pennsylvania State University, as stated by Inglis, Ling, and Joosten (1999), a curriculum model can best be described as the structure of a programme of study in a variety of fields that is offered to the students. The gaps in the education courses of study are divided into two categories: the first is a subject matter-oriented curriculum model, and the second is a competency-oriented model. The characteristic is considered important for assessment, design, and delivery [15].

2.1.2 Curriculum Models and Identity: Three Stories of Early Childhood Teachers

According to Marta Cabral, the curriculum model can be characterised as a theoretical prescription. Froebel in the late nineteenth century recommended some specific materials and activities for the education system that brought the ideas of curriculum and curriculum model together [16]. Montessori and Steiner at the rise of the twentieth century are good examples of pedagogues who explain that curriculum models must be precisely applied in the classroom in order to implement them with a clear direction.

2.1.3 Definitions of Curriculum

According to Jeff Bloom, the curriculum describes the subjects as the most convenient for contemporary living. It is also a part of the learning process in which learners gain experiences and knowledge under the guidance of the syllabus [17]. Furthermore, it is a totally unique experience that will encourage the students to develop their own skills at a variety of learning sites.

2.1.4 What is Curriculum?

According to Alexander Stephen, the theorists divide the meaning of curriculum into four different types [18]: focusing on the aims, the content, the experiences, the statement of purpose, and also the materials. Curriculum in Action focuses on the curriculum in paper that will be presented as a practising method. For the curriculum learner's experience, it is focusing on what the learners are going to do, how and the way they study, and also what they believe they should do. Lastly, for the hidden curriculum, it focuses on the learner's behaviours', knowledge, and performances.

2.2 Typography

2.2.1 Typography and Language in Everyday Life: Prescriptions and Practices

According to Sue Walker, typography, which can also be the articulation of a text so that its meaning is made clear to a particular group of users, is not and never has been the exclusive preserve of typographic experts [19]. In everyday language, and the influences on the way that ordinary people organise their writing, however it is produced, are the main themes running through the book. Why then is typography such a natural partner for applied linguistics and the study of language in particular in social life? Principally, it is because the discipline and professional practise in literate societies mediate between the propositions and forces of the message and its producing and receiving participants' knowledge and understanding of typography.

Typography becomes a classic location for understanding the interplay of form and function, for the realisation of location and illocution, and always with an eloctionary purpose, designed for effect. This is nowhere more evident than in the increasing marketization of everyday life, but of course, the interplay is basic. Typography ought to be a subject of relevance par excellence, not only in studies of initial literacy and schooling but also in the understanding of situated literacy practises among different social groups and in contemporary concerns with multi-modality and multi-literacy, especially in computer-mediated messaging and the move from page to screen.

The study of typography disturbs our conditioned concentration on the messages of the wordings by asserting the importance of the messages carried by the writing and the characterization, compelling us to grasp form and shape as central contributors to our understandings. For sociolinguists and critical discourse analysts, what is to be appreciated is not only these general principles of typography but also how the discipline offers that potential for unlocking and laying bare great differentiations in social relations, enabling the exploration of issues of authority and power, of membership and collegiality, of informality and formality, and providing signifying evidence of distinct orders of discourse in the community. Both are seen historically in typographical variation over time.

For teachers and educators, the pedagogic potential of typography is a central part not only of the study of languages but also of a range of subjects in science, mathematics, and social studies. Typography is central to the transition from creative play to more formal learning. The study of typography alerts applied linguists to its inherent significance and also to its bridging potential, providing as it does a route towards greater inter-disciplinary and inter-professional collaboration. The collaborative exploration of the ergonomics of textual display and its effectiveness in the work is central to our understanding of the relationships between textures, social practises, and discursive practises, as those are inherent in the words and propositions with which we have been only focused for so long.

2.2.2 Basic Typoghraphy

According to John R. Bigg, today's typography is not only a utilitarian technique for transmitting information; it is more than that [20]. It has a form that is capable of achieving aesthetic value in its own right. The arrangement and printing of types on appropriate paper may prove beautiful in a way that cannot be explained wholly in terms of its utility. In this sense, typography is printing what architecture has built. Typography has an affinity with the art of the actor. Both are interpretive arts that convey ideas in the form of words from the mind of the author to the mind of the reader or listener.

> "….. by a typographer, I mean such a one who, by his own judgment, from solid reasoning with himself, can either perform, or direct others to perform from the beginning to the end, all the handiworks and physical operations relating to Typographie".
>
> Joseph Moxon (1683)

Typography is visual elocution. It gives visible form to language. Written or printed language uses symbols (letters) to denote something other than themselves. The typographer should be trained in and sensitive to both the linguistic and visual aspects of words. Today, a typographer must be conversant not only with letterpress printing, which is, in a purist sense, true typography, but also with photo-setting and the printing processes that make most use of photo-setting, namely, lithography and photogravure. The phase 'handiworks relating to

typography" must include photography, platemaking, and processes of reproduction, and indeed, the typographer needs to know more than enough about how line blocks and half-tones are made and how plates are made for lithography and gravure to be able to design intelligently for these processes.

Today, computers are taking over many tedious tasks that used to be performed by people. It also does many of these tasks better and more accurately. The composition of texts by computer for both traditional hot metal type and photosetting is already an established fact, and though the application of computers to typography is very limited, it is advisable for the young typographer to look ahead and become acquainted with the capabilities of computers. A text type demands instant legibility, while display types may require charm, decorativeness, or dominance. Eric Gill, after a lifetime of lettering and designing types, said, 'Legibility in practise amounts simply to what one is accustomed to'.

Typography is such an absorbing study and profession (at its best, it deserves to be called a profession) in its many facets. It is something more than just an art, it is also a craft, something of a science, and also a business. Hence, the successful typographer must have some of the intuition and taste, in form and colour, of the artist. The art of printing has a noble and well-documented history, and it is too easy to become so fascinated by it that one becomes an antiquarian.

2.2.3 Origins, and Influences on the Form of Typographic Communication

According to John Lewis, typography covers more than the history of type design. It is concerned not only with the materials of the craft but also with communication and elucidation [21]. It consists of typefaces, type rules, type ornaments, and all sorts of printing surfaces, such as spaces, leads, quadrats, etc. The appearance of bills and posters, labels, letterheads, tickets, and all kinds of ephemeral printing changed completely because of the variety of size, weight, and form of the typefaces at the printer's disposal.

The three main influences on modern typographic design were the dynamic diagonal typography of the Russian Supremacists, such as El Lissitzky, the static asymmetric design of the Dutch painter Piet Mondrian, and the impudent freedom of Dada.

"It must be clear communication in its most vivid form. Communication ought not to labour under pre-conceived aesthetic notions. Letters should never be squeezed into an arbitrary shape like a square. A new typographic language must be created, combining elasticity, variety and a fresh approach to the materials of printing".

(Moholy-Nagy, Bauhaus teachers)

2.2.4 Modern Trends in Typographic Communication

The language of the typographer today as always must depend on words, and words are made up of recognisable symbols, which are letters. This immediately presents a problem and perhaps a contradiction. Modern art has given the graphic artist a visual language of expression. But one thing is certain, and that is that the typographer's main job is to communicate with as little interference as possible as the author's or copywriter's message.

The conclusion must be that there is more than one way of communicating typographic information, and there is room for more than one style of typeface. Typography is a subject of unending interest. Its ramifications are so wide. Its successful practise depends on so many things; an understanding of the meaning of words, knowledge of printing processes, and meticulous attention to detail.

It depends on the typographer being a cultured man, that is, someone who is conscious of both the past and the present in the arts, literature, and the crafts of printing and typography. This knowledge is not mere scholarly pedantry but something that makes one alive to the fact that typographic design is as fluid as our language and as dynamic as modern life.

2.2.5 The Typographer Theory

According to Kenneth Day, within the last sixty years, when the illustrations began to appear more regularly, the advertisement in the press has evolved as well as today's and is getting much better. Through the increase in reading among the public and also the popularity of education, there is a demand for attractive illustrations as an encouragement to the newly literate [22].

A new art form was born with the primary purpose of appealing, contributing to industrial expansion and also ensuring a permanent place in daily life. There are many intangibles inherent in the complicated framework of advertising. In the world of advertising or even in typography itself, any writing or expression of opinion must be personal. Good design includes a greater regard for typography and is becoming more widely appreciated by pioneer thinkers.

2.2.5.1 Seven Golden Rules

There are seven golden rules that have been designed for typographers and also for advertisement typographers. For typographers, legibility must be first and foremost essential; choose the right face for the job and fit the space available compatible with 1 and 4, cast off the copy; the type must be metal and rigid, not rubber and elastic; and use the correct type size in proportion to the measurement. Also in relation to proportions of the page, use space caps when necessary, space small caps almost invariably, and drop caps must fit; use decoration and special sorts with discretion; fussiness confuses the reader; avoid underlining, squaring up arbitrarily, or any action that causes type to depart from its functions.

    For advertisement typographers, legibility must also be first and foremost essential. Typographers are concerned with selling something 100 percent of their time and have to compel attention. They must consider carefully to whom the message is to be addressed, the style of make-up of the medium to be employed, and the process of reproduction. Display tricks cannot be played with textual settings if they are to be read easily. They must ensure balance and integration in the layout of display, text, and illustration.

2.2.5.2 The Typographer Practice

The responsibility of the typographer is to ensure that the printed result is legible. The typographer must be fully aware and appreciative of the accepted canons and apply them with good taste, practicality, and common sense. The function of a typographer is to make vocal previous muted roughs or visuals, in cooperation with the copywriter and artist. The typewriter also ultimately bears a large share of the responsibility for the achievement of a truly planned advertisement that is successfully founded. To examine, it depends on the general unity of layout and its impact on the vital contribution of the choice of a face's type, size, and disposition. As a typographer, they must know about the quality needed in advertising and printing.

> "Type, the voice of the printed page, can be legible and dull, or legible and fascinating, according to its design and treatment. In other words, what the booklover calls readability is not a synonym for what the optician calls legibility".

<div align="right">Paul Beaujon, The Monotype Recorder (1933)</div>

2.2.5.3 Nine Part of the Principle of Type

1. **Legibility**
   It It can be defined as the degree to which the letter conforms to the code, whereby its form immediately registers a particular meaning, either singly or in combination. Any radical departure from the accustomed form will detract from its degree of legibility and instant recognition.
2. **Conformity and Non-Conformity**
   It must conform to the canons of design, which are the sum of adherence to convention and traditional forms, proportionate relationships between letters of the alphabet, allowance for optical illusion, the degree to which letters combine easily and gracefully, individual integrity, and accuracy of design.
3. **Distinctiveness**
   It is difficult to define, but it is an acknowledged quality in some typefaces, whether subconsciously or otherwise. It is probably the degree of distinctiveness that has much to do with a face's or group's becoming fashionable. It is the result of the basic characteristics obtained by thoughtful building up through the preliminary stages of design.
4. **Appropriateness**
   Simply a convenient one-word description of 'suitability to subject matter'. This aspect of typography has been the cause of more headaches than almost any other, and certainly there have been some odd results from time to time.
5. **Equality of Color**
   It actually has nothing to do with colour in its full range of the chromatic scale but with black and white, and more truly, it might be referred to as a comparison to tonal values in those two opposites, which is the balance between the typeface employed and its context in the form of a border, attendant illustration, or decoration.
6. **Suitability for Reproduction**
   The intention of the heading should be self-evident, and it needs a little in the way of definition, but there is much to be said on what may be and what may not be suitable for a particular process or surface for printing upon. Bear in mind the possible differences between the surface on which the original type specimen, which is the subject of the typographer's choice, was printed and the final surface on which the announcement is to appear.
7. **Reader-Association**
   An appropriateness for some purpose, not only the association set up in the reader's mind by particular letter sounds but the additional association of a particular presentation of such letters with a specific

speaker or advertiser. Equally, in all advertising, there must be a tie-up between message and product or service publicized.

8. **Type Founders and Trade-Setters**

All those who are responsible for the designing, punching, matrix making, and casting of types, apart from the master printers, The wide selection of typefaces available today is taken very much for granted, perhaps without thought of how this immense repertoire has been built up. Each has changed over, and care has been taken usually to see that surviving punches, matrices, and equipment are preserved.

9. **Nomenclature and Terminology**

The choice of type should be free and at the complete discretion of the user, but the name given to that choice should be standardized to the extent that it can be described in terms that are understandable to all those interested. This perhaps seems an odd point in connection with type, but it comes appropriately as our last one to round off the short survey of the chief tool of the typographer.

2.3 Undergraduate Student

2.3.1 Definition of Undergraduate, Graduate and Postgraduate

According to the University of Canterbury, a Bachelor of Arts or Bachelor of Laws that falls under the label of an undergraduate degree is what we call the first degree that a student will study at the university [23]. Certificates and diplomas are also part of the undergraduate qualification process. Students who study for a bachelor's degree, certificates, or diplomas are what we call undergraduate students.

After students completed the study of their first degree, they are now all under the label of graduates. Graduate study actually focuses on the study in a different way than first degree study. It might involve a subject in certain areas or might involve employment in a certain field, such as the graphic industry, fine art, or teaching. Postgraduate studies are what we call an advanced study beyond the first-degree study, including honours and master's degrees and also doctorates (PhDs).

2.3.2 The Meaning of Undergraduate Student

According to the University of Cambridge, there are two classifications of undergraduate students: Bachelor of Arts (BA) and Bachelor of Science (BSc) [24]. As stated in Houghton Mifflin, undergraduate refers to college or university students that have not earned a bachelor's or similar degree yet [25].

2.3.3 What is Undergraduate Study?

According to Curtin University, post-secondary education, which is normally studied at a higher education institution such as a university, is what we call undergraduate study. A bachelor's degree will take three or four years for a student to complete [26].

2.4 New Media

2.4.1 New Media Branding: A Comprehensive Study

According to Festoon Media, the term of new media refers to the evolution of digital, computerised, or information networks and the technologies in communication in the 20th century [27]. Most of the technologies that represent a new medium are digital, including the characteristics of being manipulated, networkable, dense, compressible, interactive, and dispassionate. Examples of new media are computer multimedia, computer games, websites, the internet, CD-ROMs, and DVDs. Television programmes, films, magazines, books, or even paper-based publications are not considered new media.

2.4.2 Principles of New Media

According to Lev Manovich, all new media objects are numerical representations [28]. Either created by computers or some sort of conversion from analogue media sources, they are composed of digital code. There are two key consequences: firstly, a new media object such as an image or even a shape can be interpreted by using a mathematical function and can also be defined formally. Secondly, a new media object must also be subject to algorithmic manipulation. As a proof, now we can automatically remove a photograph's "noise", locate and replace the correct edges of the shapes, improving the contrast, or even change the proportions. All media is now programmable.

2.4.3 What is the New Media?

According to Marshall McLuhan, either interactive digital media or communication that incorporates two ways, which involve the form of computing as opposed to old media, are under the terms of new media [7]. Before this, old media such as telephone, radio, and TV did not require any computer technology, but at the current stage, new media are now combining the old medium with computer chips and hard drives.

3. Research Methodology

3.1 Introduction

This is about developing a new curriculum model for typography. A qualitative research method will be used, followed by a comparative study focusing on the comparison of the typography curriculum among two (2) of the online courses in typography education using new media as a method of teaching. The final stage is the development and design of a new curriculum model for typography using new media elements.

3.2 Stages of Research

3.2.1 Step 1: Document Analysis

Document analysis of the most current method of teaching typography by five (5) famous person in the field of typography. The five (5) person are:
1.   Joyce S R Yee (2010)
2.   Barbara Brownie (2007)
3.   Gerhard Bachfischer and Toni Robertson (2005)
4.   Lev Manovich (2002)
5.   Peter Sungil Cho (1999)
The documents were analysed to gather the contents of the curriculum model for typography courses.

3.2.2 Step 2: The Comparative Study

Analysis of two curriculum models of typography in new media. The curriculum model is taken from the webpages of design.codeschool.com and hackdesign.org.

3.2.3 Step 3: Designing New Curriculum Model

In designing a new curriculum model of typography, a lot of things need to be considered first, including the size of the font, the colour, and the shape of the font, whether it is legible for the audience to read or not. Before designing the typography online courses, this research will carry out document analysis on the curriculum content of the typography syllabus. This research will choose the best curriculum content for typography from the international higher education institutions that provide a good curriculum for typography courses.

4. Data Analysis

4.1 Document Analysis of Five (5) Famous Person Who Write About The Typography

4.1.1 Joyce S R Yee (2010), stated that:

The key to the development strategy of the typographic framework is understanding and identifying the future role of typography in screen-based media. Typography continues to be one of a designer's main tools for communication. The introduction of the digital medium has not lessened the importance of this role and has in fact increased the need to communicate in a clear and straight-forward manner [29].

The influence of other disciplines in the development of new media content has also been strongly supported. The framework should also be responsive to the influences of other disciplines in the development of new media content. The influences from film, computer gaming, interactive digital art, and hypertext disciplines must be appropriated into the building of a new knowledge base for screen-based typography. Identifying and understanding the influences brought about by other disciplines should be a major consideration in the development of the framework.

The expansion of the digital medium and its divergence into many forms of technical invention have truly transformed the way in which we live. In particular, the relevance of typography has been brought into question by the emergence of other forms of communication such as sound, animation, and video. Typography's role as a communication form must be re-examined in light of the changes in how we read and view information in a screen-based environment.

4.1.2 Barbara Brownie (2007), stated that:

Before introducing temporal typography, which allows the type to perform and evolve, the current understanding of typography is that the type is assumed to be static with the properties of form and colour in nature. At the present stage, the digital media offer the letterforms not only the ability to move and change but also the opportunity for a genuine temporal dimension for the typography [30].

The typographic information through animation is not only present in the film title credits but also in the motion graphics, brand identities of the film, and television productions that also use the same method and contain animated type. Nowadays, there are so many types of software that can help create animated poetry and kinetic typography, such as Macromedia Flash, that it's becoming a quotidian.

The screen-based typography, whether on a computer, television, or even cinema screen, has its own temporal dimension that changes over time, being presented in multiple images or even in different arrangements. As stated by Wong (1995), the temporal typography can be divided into two categories, the first of which is presented through time in serial. In the serial presentation, the words are becoming static typographic compositions and have already been used for legibility and the reading process.

For the second category, temporal typography includes all screen types that are not static and move and change in any event. This can also be best described as a kinetic type. Some of the text in the kinetic type can also be in the dynamic type. Overall, it falls into the type in motion category, which can alter the layout in different ways.

4.1.3 Gerhard Bachfischer and Toni Robertson (2005), stated that:

The expressiveness of moving type that is being brought to the public's attention is becoming a popular culture, where there is primarily television and cinema, music videos, and even commercials, and yet it has lots of significance. It was also fitted with broadcast media.

Ever since moving type was extremely produced and can be viewed by any type of computer, it seems like a clear progression that shifts attention by means of additional expressive possibilities of type in the digital world of a computerised environment.

The reading spectrum occupies two opposite sites: non-intrusive typography, which becomes an invisible art of designing for legibility, and the experience of typography in form, presented in different layers that can create expressions. When those two sides have been unified in a holistic approach to reading, it's totally embedded as a phenomenon of life [31].

4.1.4 Lev Manovich (2002), stated that:

In the 1920s, we saw a revolution in typography and also in graphic design. Based on the traditional symmetrical layouts that suit the old-age style of reading, which uses a clear hierarchy of type sizes, it's all now being transformed into a further development in computerised interfaces. The Graphical User Interface (GUI) brings the typography to the next stage.

Not only does it present a limited amount of information in the most systematic way, but it also creates an effective structure and tools that can be used with arbitrary information, which can always be added to time by time. GUI provides the users with the tools that can arbitrary the data for hierarchical organization [32].

4.1.5 Peter Sungil Cho (1999), stated that:

In terms of typography, which is using typeface to communicate with others, computers are also a medium for interactive experiences with texts that can be a very useful tool for bringing typography into the new media approach. To gain multi-threaded story experiences, the web also provides an opportunity by using hypertext and documents that are related to each other in a linear or non-linear way.

For hypertext, computers can make the information more accessible for the reader to find out more about it. On the other side of commonsensical functionality, through the visual feedback, the computation, or even the user's interaction, the digital medium can also be expressive.

The context of effective typography using animation in delivering the message or content is not only a part of communication design for the future; it is also a part of rising animated type in broadcast and film and also a combination of the act of reading with the very cinematic of storytelling [33].

4.2 The Comparative Study of A Curriculum of Typography Using New Media

4.2.1 Introduction

This is the analysis of two curriculum models of typography by using the new media elements as a process of education and learning. Below is a comparison of two online courses that are similar to the curriculum of typography.

4.2.2 Curriculum Model of Typography

This is from the webpage of design.codeschool.com. The Code School is a free site of online courses that will teach new designers about the coding aspect of web design. This is a fun interactive module on typography education, and it's totally free.
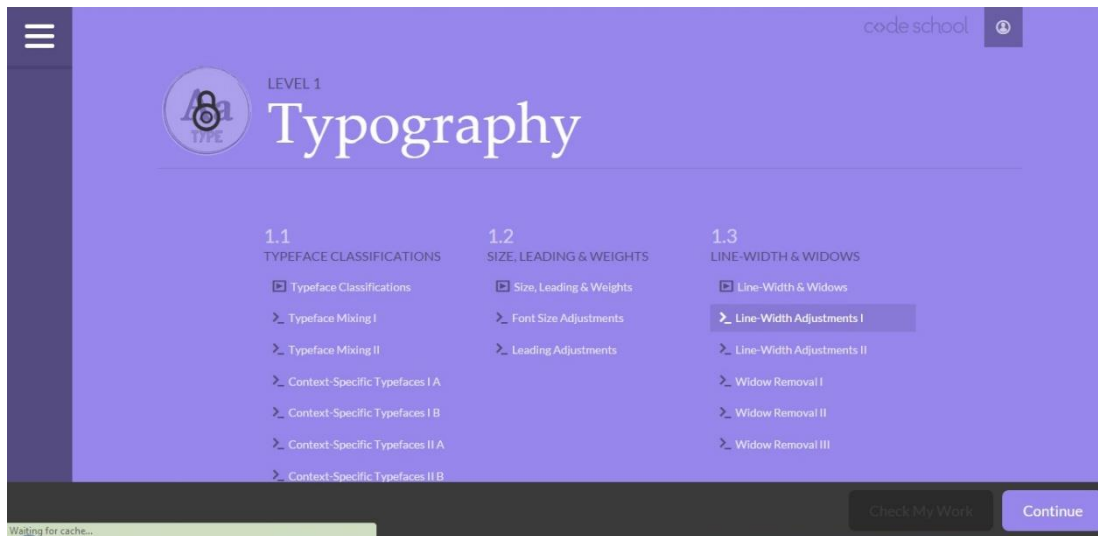

Fig. 1 *Design.codeschool.com Page 1*

In this typography online courses figure 4.1, level 1 contains the three types of stage based on the understanding of typography which is:
1. Typeface classifications
2. Size, leading, and weights
3. Line-width and widows

Each type of stage has its own introduction to the education of typography. By using the light purple colour on the background, this site also used an easy reading font, which makes it easy for the audience to read and understand every stage on this site.

Fig. 2 *Design.codeschool.com Page 2*

In this figure, it shows the typeface classifications by using a video, which is explained in detail and needs to be viewed by the audience before proceeding to the next page. The overall composition of this page is also good.
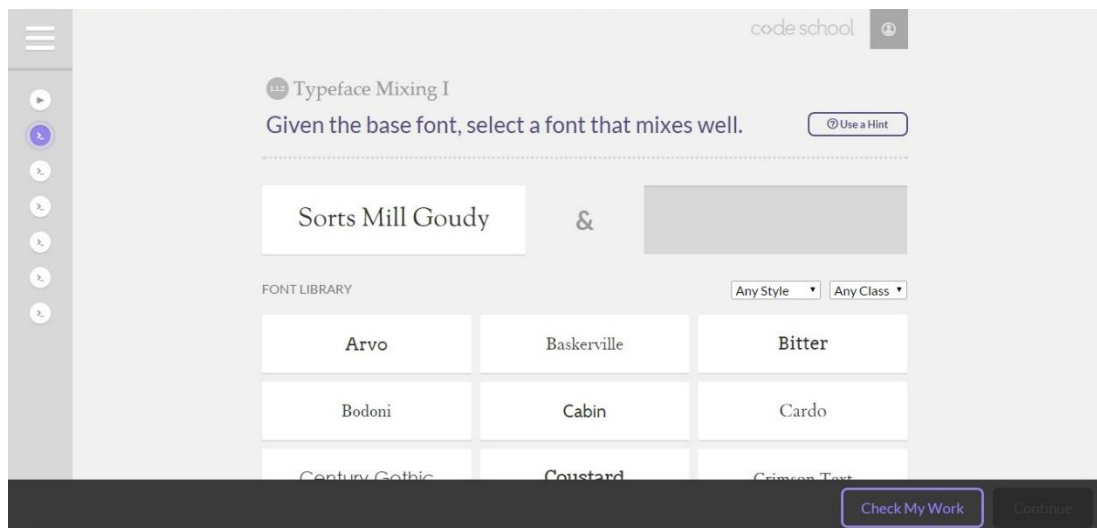
Fig. 3 *Design.codeschool.com Page 3*

In this figure, the audience needs to give the base font, which requires the audience to select a font that mixes well with the font that is being given. The list of fonts is already in there, and now it's up to the audience to choose the correct one.
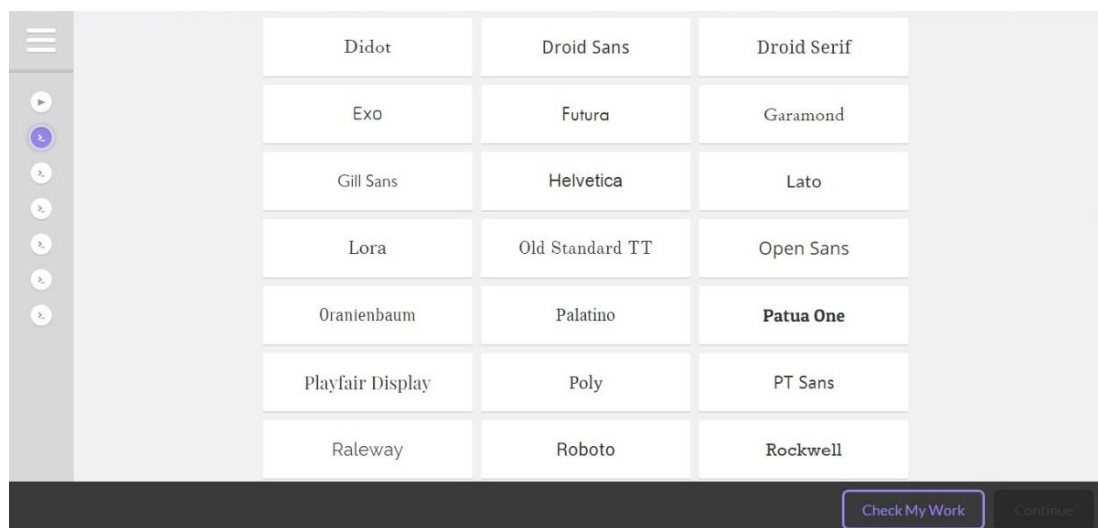
Fig. 4 *Design.codeschool.com Page 4*

This is continuing from the previous page, which is the overall list of fonts that the audience needs to choose. The arrangement of fonts on this page is quite good, easy to read by the audience, and also provides the button "Check My Work," which led the audience to the correct answer.
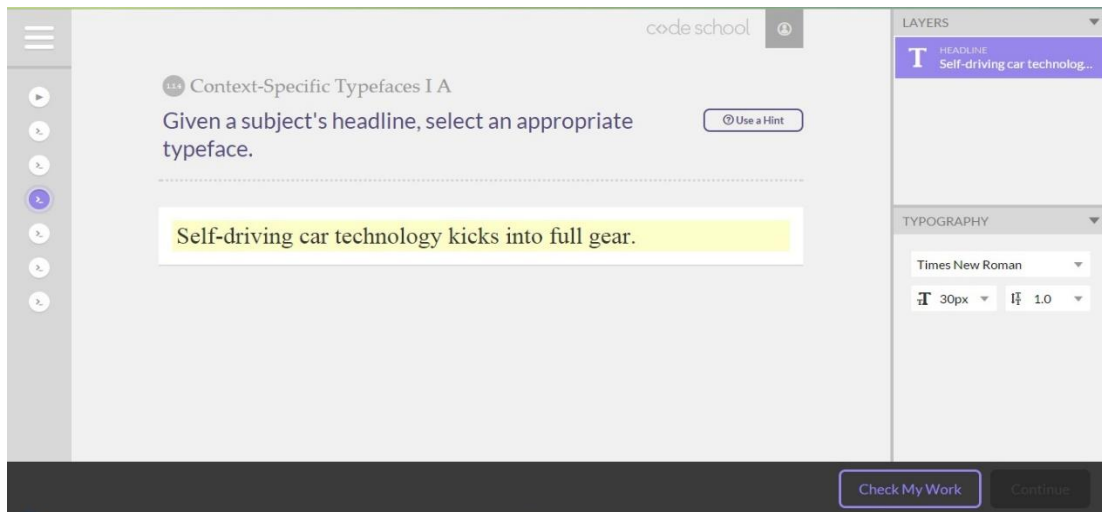
Fig. 5 *Design.codeschool.com Page 5*

In this figure, the audience will be given a task that requires them to give a subject's headline and select an appropriate typeface that is suitable for the headline. This will teach the audience how to select a good subject's headline.
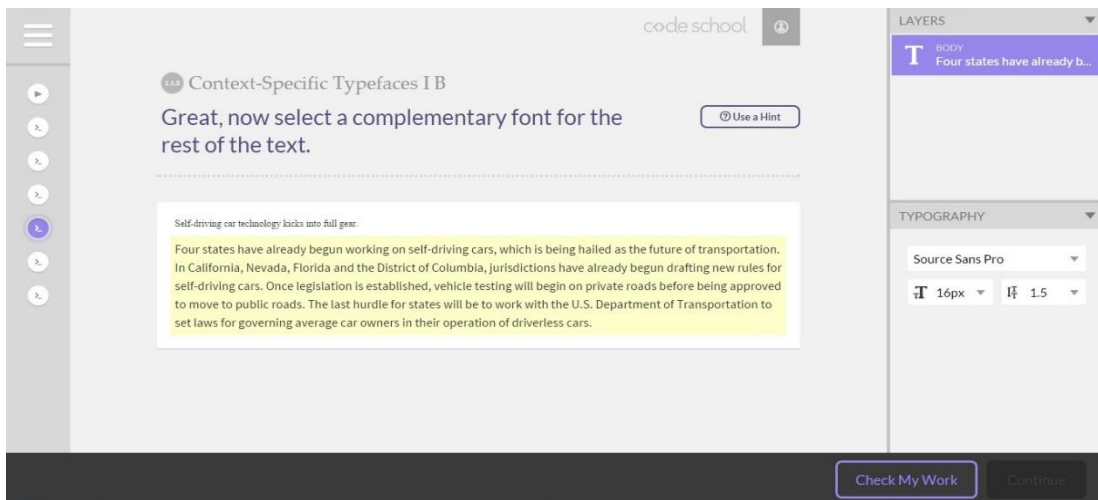
Fig. 6 *Design.codeschool.com Page 6*

On this page, the audience will learn how to choose the correct complementary font for the rest of the text. The text is already given. The audience can also use a hint button if it is hard for them to find out the answer.
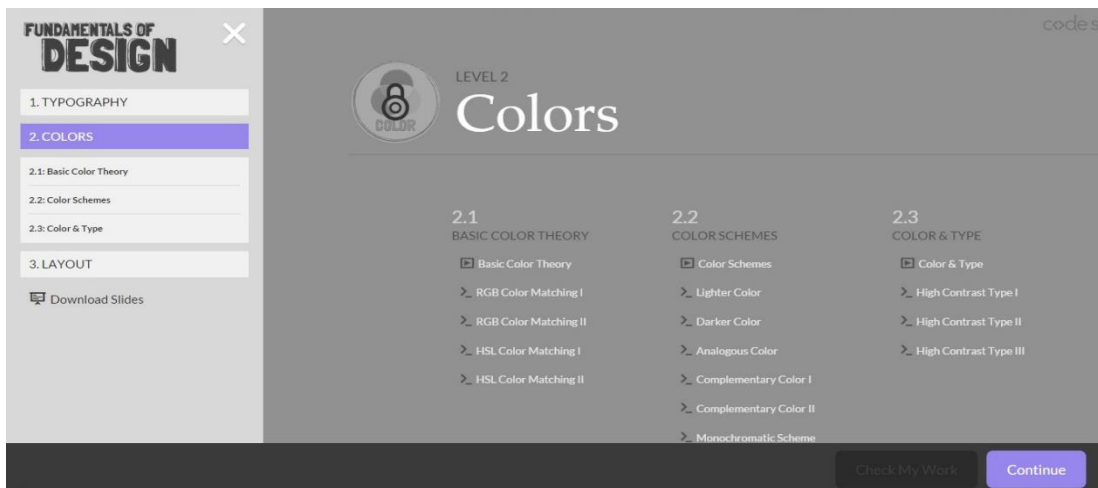
Fig. 7 *Design.codeschool.com Page 7*

In this page, the audience will learn about the color in typography, it is divided into the questions which are:
1. Basic color theory
2. Color schemes
3. Color & type
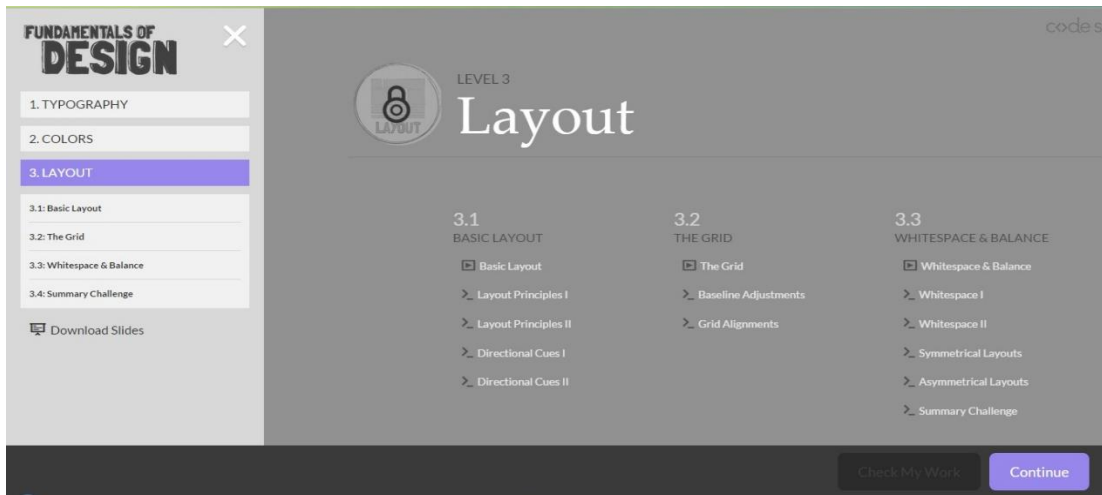
Fig. 8 *Design.codeschool.com Page 8*

On this page, the audience will learn about the layout of typography. It is divided into parts, which are:
1. Basic layout
2. The grid
3. Whitespace and balance

4.2.2.1 Analysis Result

The analysis that can be explained according to this typography online course is that, firstly, this is a fun interactive module on typography education that the audience should try and feel the environment of education by using the new media elements. Secondly, the interface is very user friendly, and the soft colour of the background makes the page really suitable for online learning education.

Thirdly, the overall question on this site is quite simple and easy to understand for the audience. This page also provides a hint button for the audience to check for similar answers. Fourth, this site also provides an understanding of colour and layout in typography. This online course is very suitable for a beginner type of learner seeking education in typography.

4.2.3 Curriculum Model of Typography

This is from the webpage of hackdesign.org. Hack Design is a collective of experienced designers dedicated to the form and function of typography in graphic design. It also provides a handful of lessons in typography that are worth checking out.
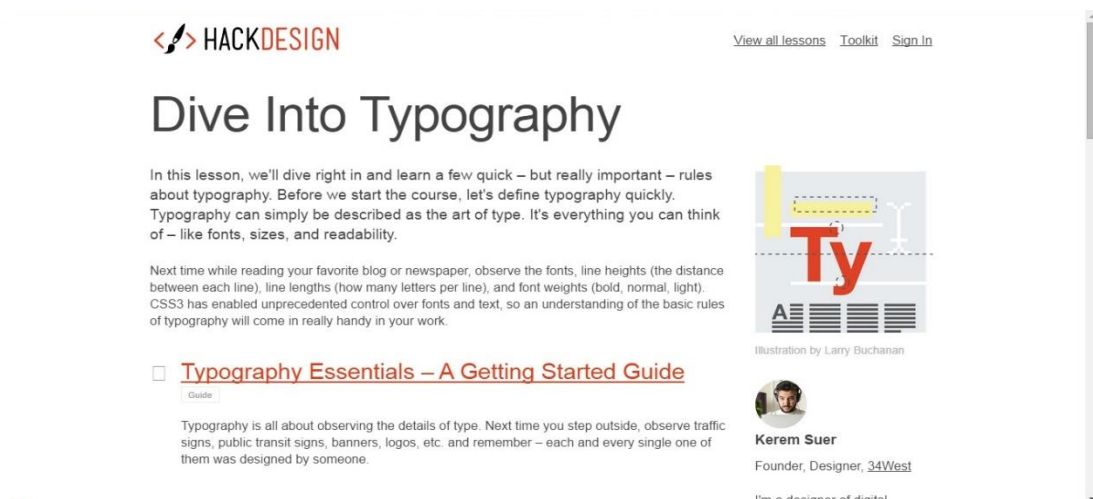
Fig. 9 *hackdesign.org Page 1*

In these figures, the site provides a very important lesson on typography essentials as a starting guide according to the rules about typography, which is why the big title for this page is Dive Into Typography. It is focusing on defining typography, such as fonts, sizes, and readability.
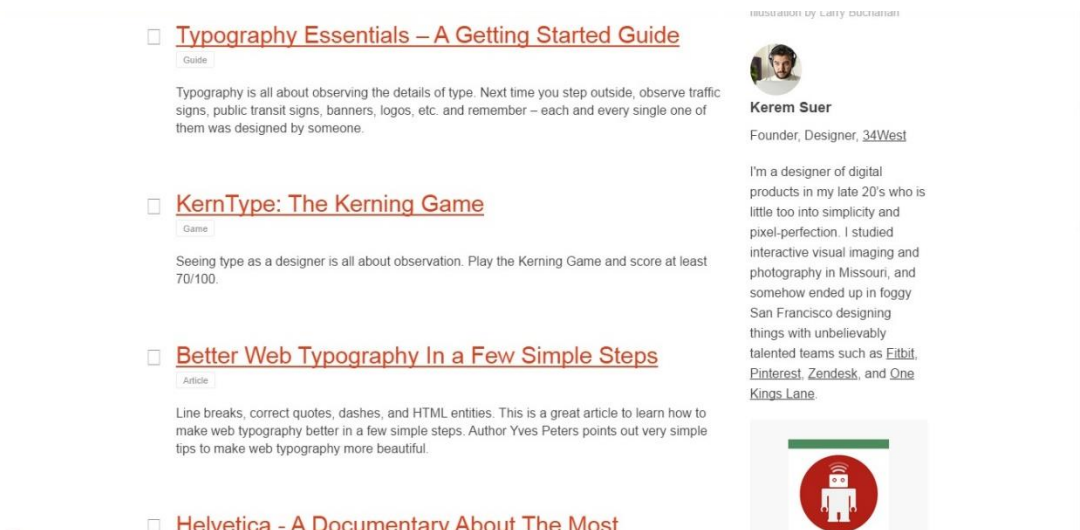
Fig. 10 *hackdesign.org Page 2*

This page continues the content of the previous page. In here, it is including the Kern Type stage, and as we can see, these sites provide some fun games for typography courses. Next is the introduction of better web typography in a few simple steps.
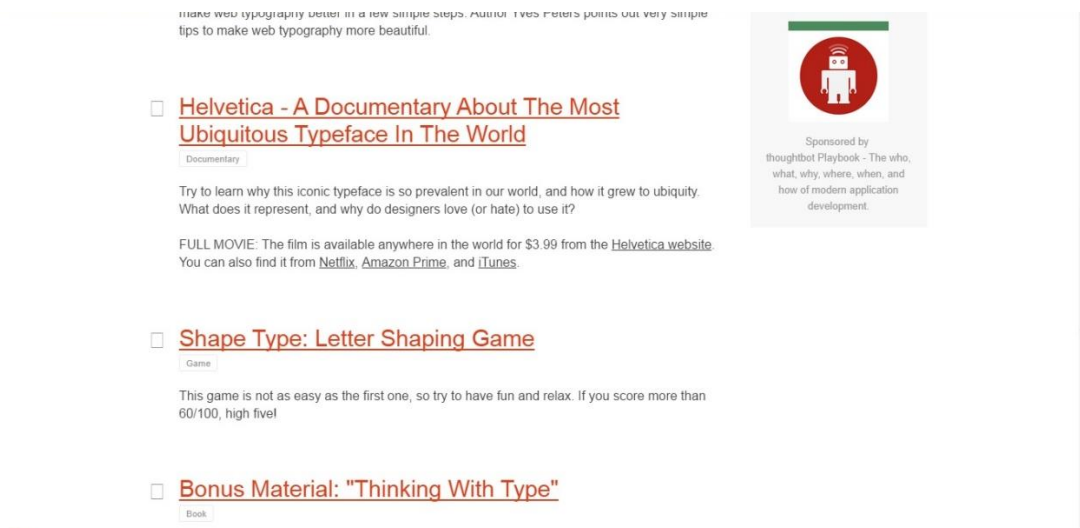
Fig. 11 *hackdesign.org Page 3*

These pages also provide a documentary about the most ubiquitous typeface in the world, Helvetica. The audience will learn about the iconic typeface and how it became ubiquitous. The documentary is available in full of the Helvetica website.

Fig. 12 *hackdesign.org Page 4*

In these figures, these sites also provide the reading to gain knowledge and information about the amazing new mobile web, to learn better and know your tools in graphic design, and also the information about what is designated and why it is important.
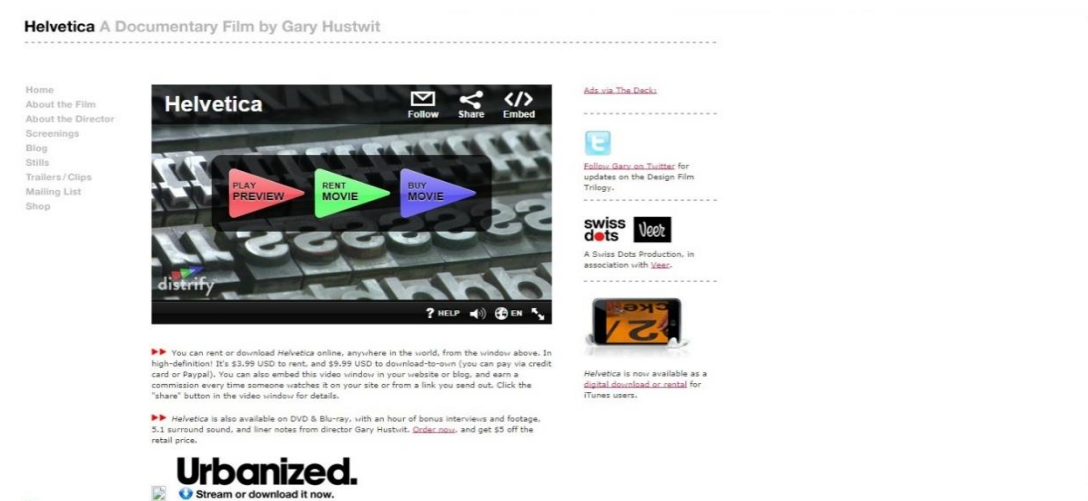
Fig. 13 *hackdesign.org Page 5*

This is an example of video documentation about the Helvetica documentary film by Gary Hustwit. The composition of the video and overall item arrangement on the page are balanced and friendly to the user.
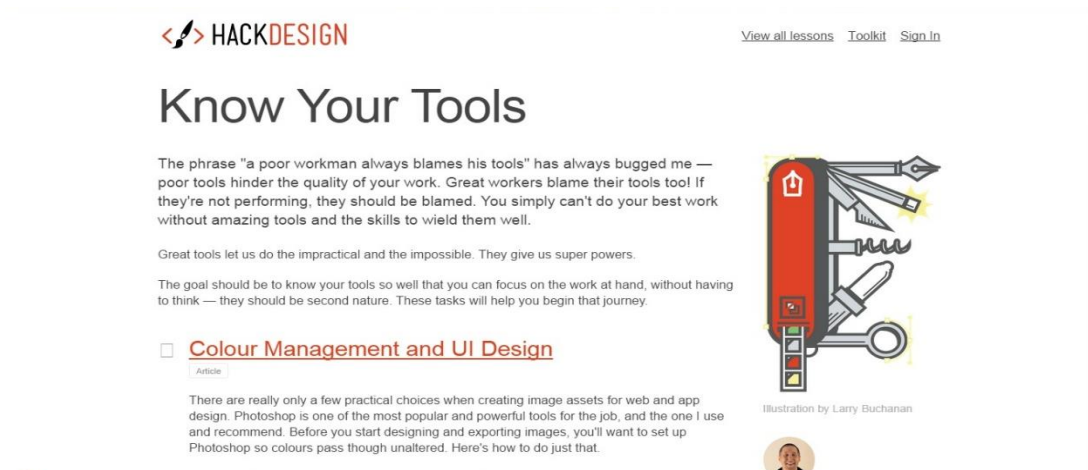
Fig. 14 *hackdesign.org Page 6*

This is an overview of the Know Your Tools page. By using a simple icon of fixing tools, it shows up the understanding of graphic design tools such as colour management and user interface design (UI design).
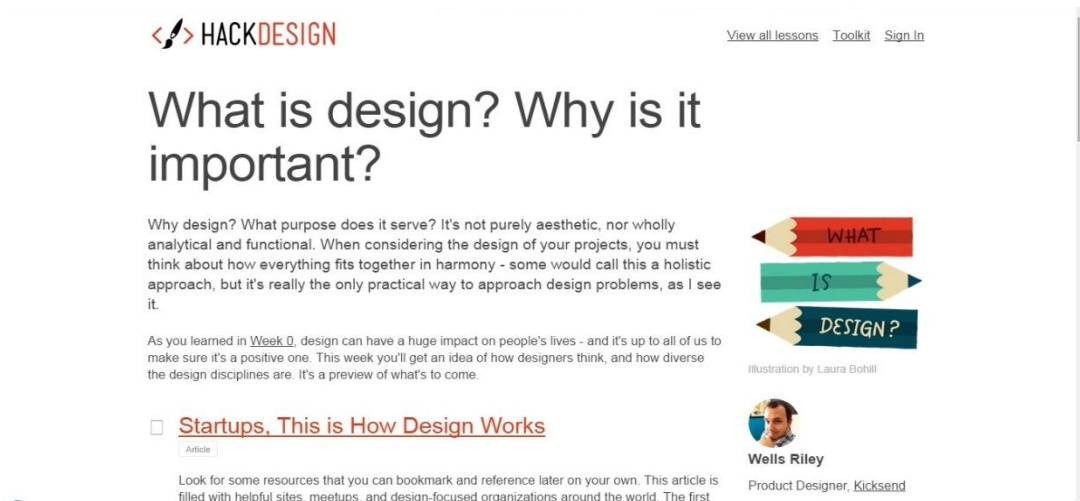
Fig. 15 *hackdesign.org Page 7*

This is the overview of 'What is design? Why is it important?' page. These pages explain why design is important, the introduction of analytical and functional design, the holistic approach, and the design disciplines.

4.2.3.1 Analysis Result

This online course actually focuses on typography in graphic design. It is more about the explanation of why typography is important in design, how it becomes important, and why all typographers or graphic designers should understand the importance of typography in design.

An overview of this site, firstly, does not provide the history of typography. Secondly, the interface design is quite interesting and easy for the audience to learn and view the overall content on the page. Quite impressive for the knowledge gained in becoming a graphic designer. Thirdly, the content on every page is really impressive and good for an education in typography for designers.

4.3 The Comparative Data Analysis From The Online Courses

The comparison that can be made between those two online courses is that, firstly, both of the courses are about the information of typography, which is the understanding for designers and typographers to deeply learn and practise about typography in design. Secondly, these two online courses use a simple interactive interface design that is suitable and very friendly for the user.

Thirdly, an overview of the page is given using a simple and very graphic arrangement of colour. We can see from the background to the button on every page, or even the font, the images, and the icons, using colour to attract an audience to read, view, and explore. Fourth, the overall fonts on every page are easy to read. Everything is clear for the audience to see.

4.4 Designing New Curriculum Model

In designing a new curriculum model of typography, a lot of things need to be considered first, including the size of the font, the colour, and the shape of the font, whether it is legible for the audience to read or not. Before starting to design the typography online courses, this research will do document analysis on the curriculum content of the typography syllabus. This research will choose the best curriculum content for typography from the international higher education institutions that provide a good curriculum for typography courses.

5. Testing and Evaluation

In the future, I do recommend to any other researcher who is interested in the research on typography to ensure that the knowledge of typography will never end here, because typography is one of the major sections in graphic design. Nowadays, we can see the impact of typography on the advertising industry. If there is the wrong setting of typefaces in a certain product design, we cannot assume that people will buy it or appreciate the overall design.

5.1 Testing

In designing a new curriculum model of typography, a lot of things need to be considered first, including the size of the font, the colour, and the shape of the font, whether it is legible for the audience to read or not.

5.1.1 Pre-Test Online Course
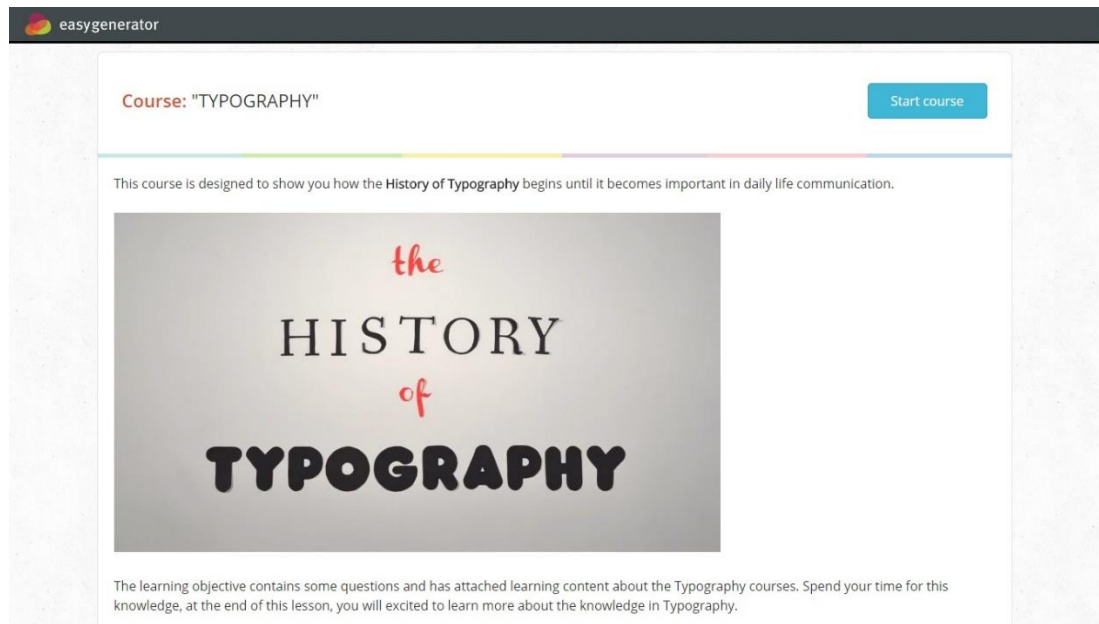
Fig. 16 *Typography online course Page 1*

This is the front page of the typography online course developed by the researcher. For the introduction, this page will introduce the content of this course. When the audience is ready to take the course, they can press the blue button to start the course.
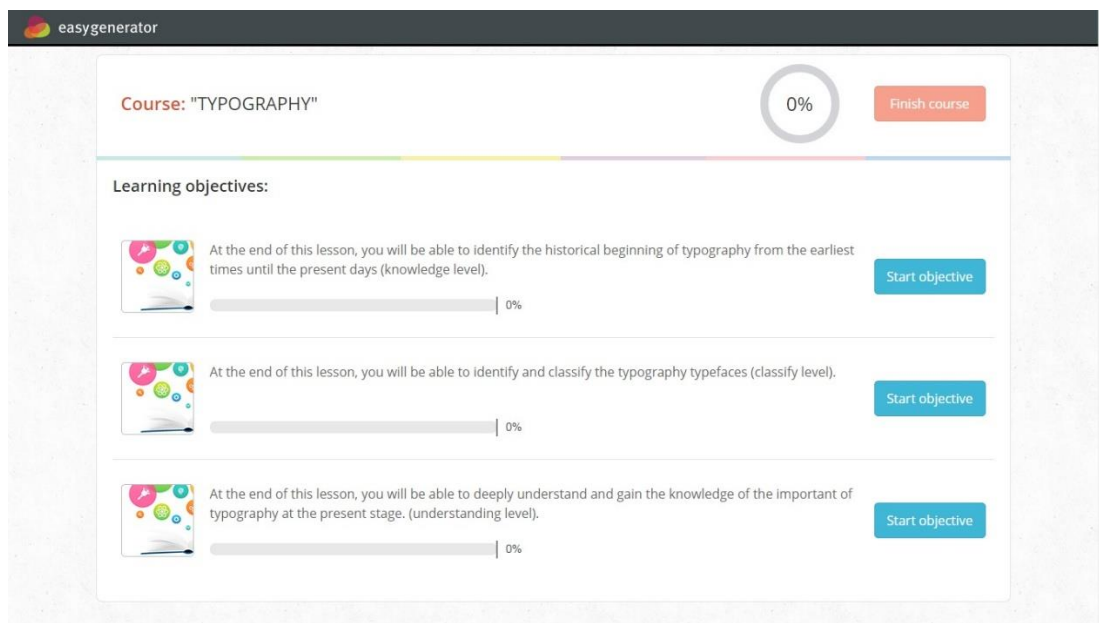
Fig. 17 *Typography online course Page 2*

In this figure, there are three learning objectives: firstly, at the end of the first lesson, the audience will be able to identify the historical beginning of typography from the earliest times until the present day, and this is the knowledge level. Secondly, at the end of the second lesson, the audience will be able to identify and classify the typography typefaces; this is the classification level. Thirdly, at the end of this lesson, the audience will be able to deeply understand and gain knowledge of the importance of typography at the present stage; this is the understanding level.
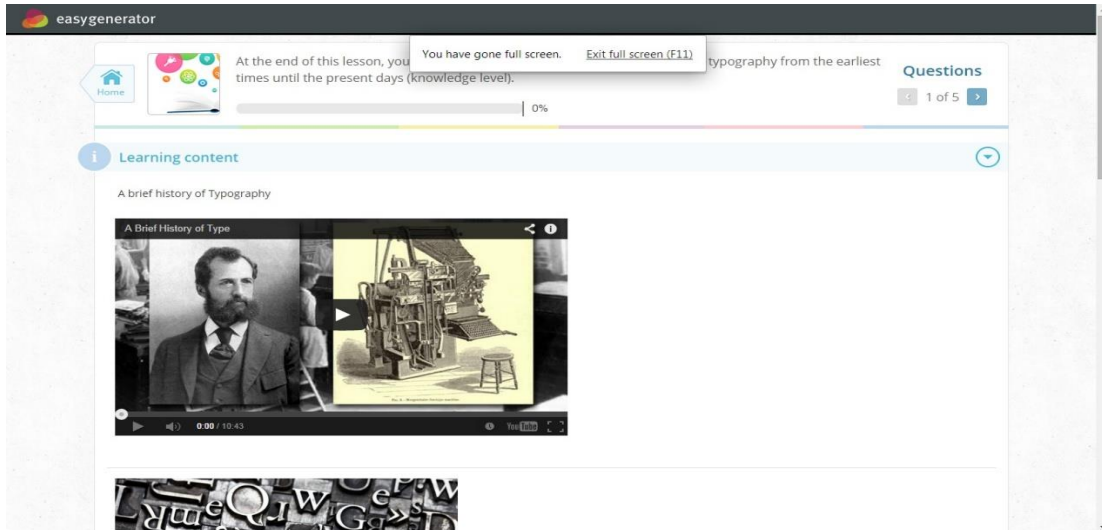
Fig. 18 *Typography online course Page 3*

This is an overview of the knowledge level content page. There will be video documentation for the audience to review before answering the question below the video.

Fig. 19 *Typography online course Page 4*

This figure is a continuation from the previous page. It contains an image of font anatomy and a list of answers that the audience needs to choose from.
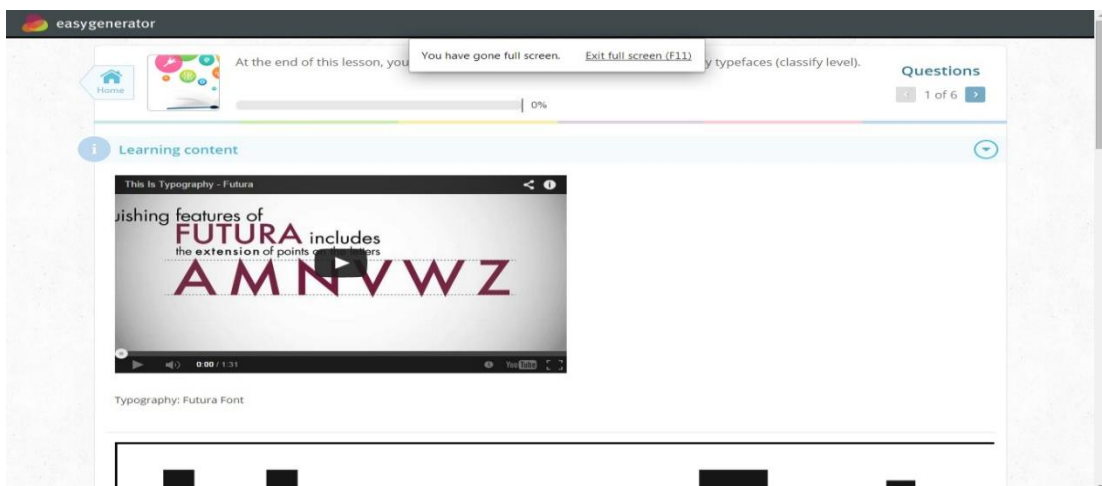
Fig. 20 *Typography online course Page 5*

This is the figure for the second learning objective, the classification level. This page also provides the video documentation for the audience to review before answering the questions below.
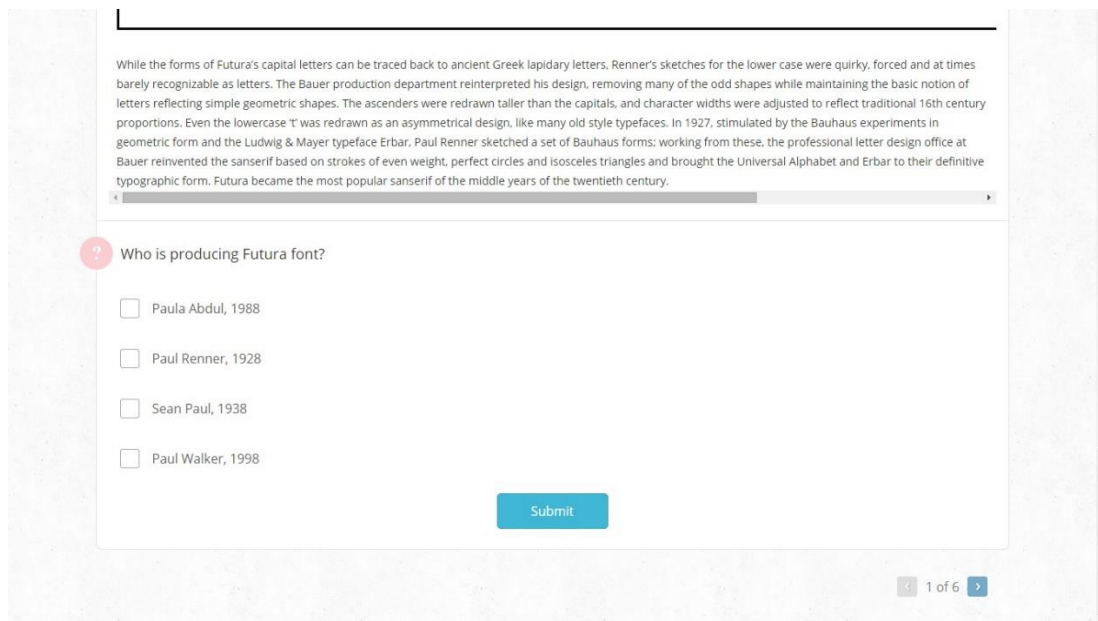
Fig. 21 *Typography online course Page 6*

This figure content is continued from the previous page, which is the part of the page with questions. The audience is required to view the video, read the content, and then start answering the question.
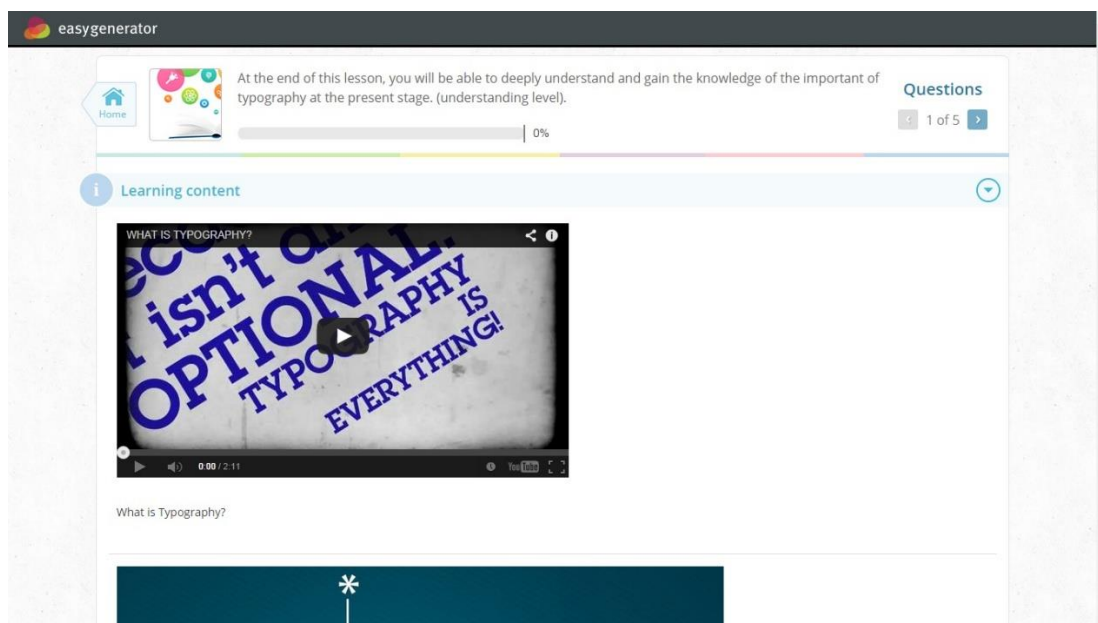
Fig. 22 *Typography online course Page 7*

This is the figure for the third lesson objective. As with all previous lessons, this page provides video documentation as a guideline and images for the audience to review.
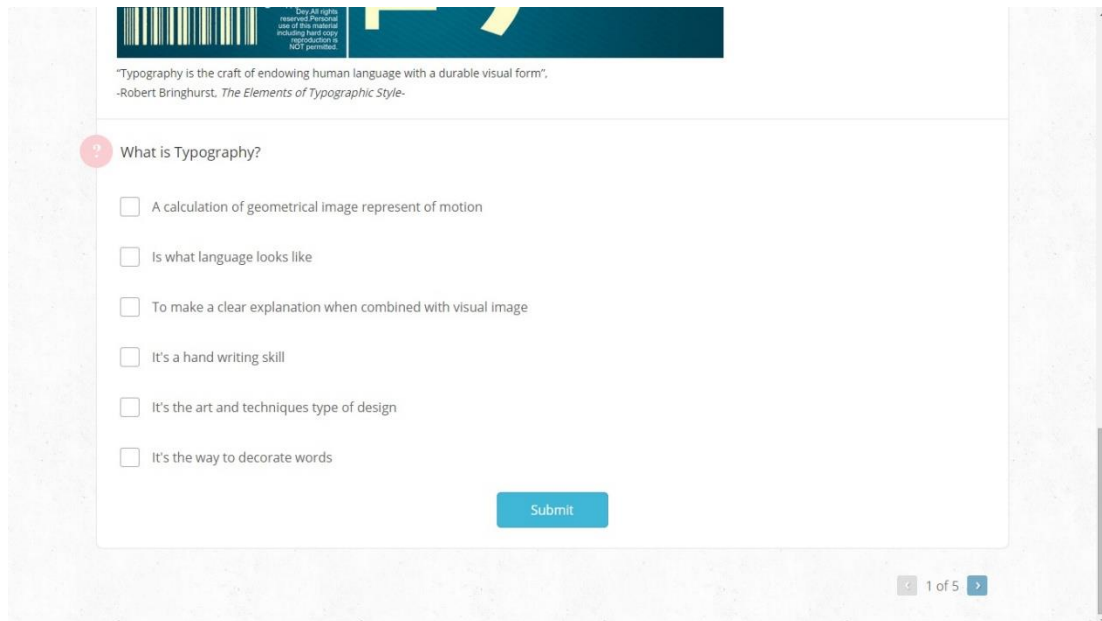
Fig. 23 *Typography online course Page 8*

This is continued from the third lesson objective page. Here, a list of answers was given, and the audience needed to choose the right one before proceeding to the next page.

5.2 Evaluation

5.2.1 Post-Test Result

5.2.1.1 Post-Test Result Using The cloud.scorm.com
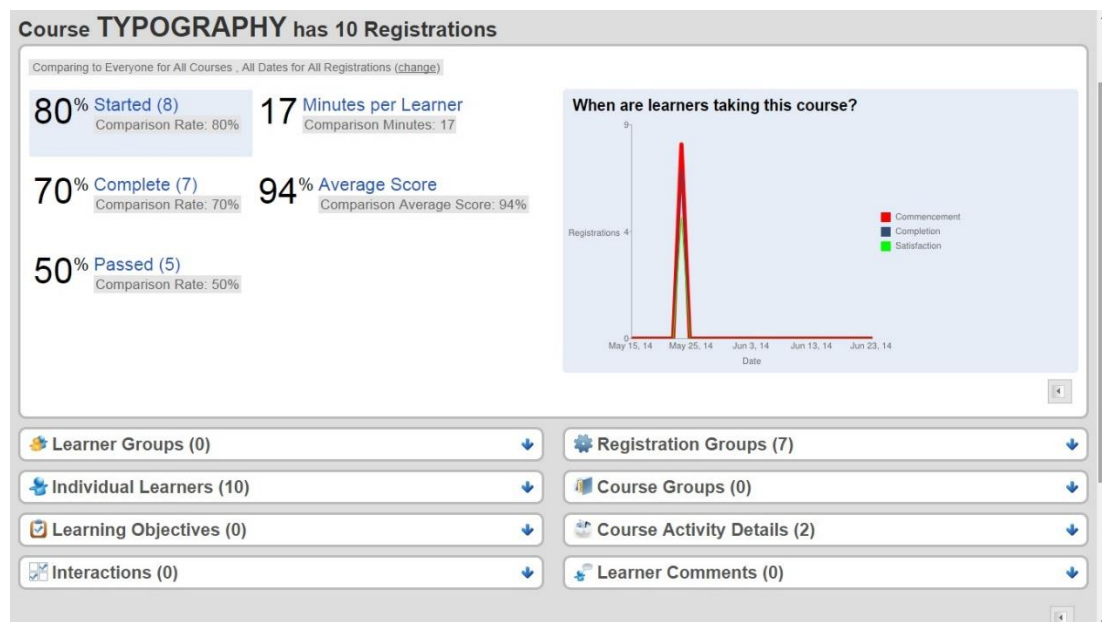
Fig. 24 *cloud.scorm.com Page 1*

In this figure, it shows that the Typography course has 10 registrations, which means that there are 10 participants involved in this course. By using cloud.scorm.com, it can trace all activities in the event of an online typography course. 80% started is the meaning of a registration as considered to be 'started' from the moment the learner first launches the course. A registration is the record of a learner taking a course. A learner can launch a given registration more than once (to review, for example).
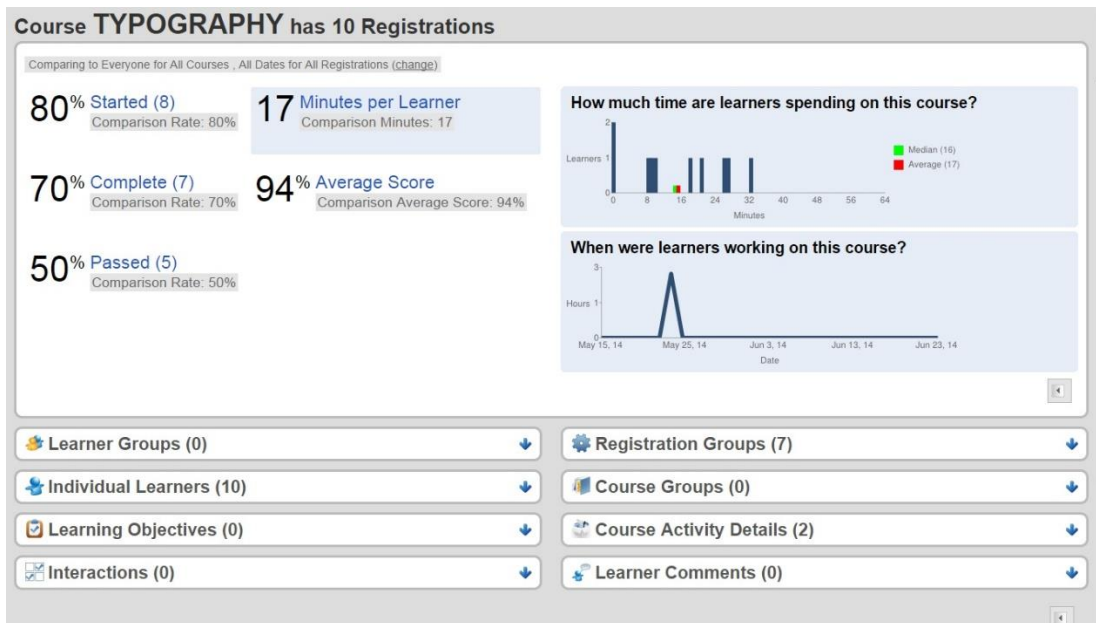
Fig. 25 *cloud.scorm.com Page 2*

In this figure, it shows the time spent by each participant taking the courses. In this case, it was 17 minutes per learner, which means comparisons between each learner are around 17 minutes. On the right side, there are two information charts: one shows how much time learners are spending on this course, and the other shows when learners are working on the course.
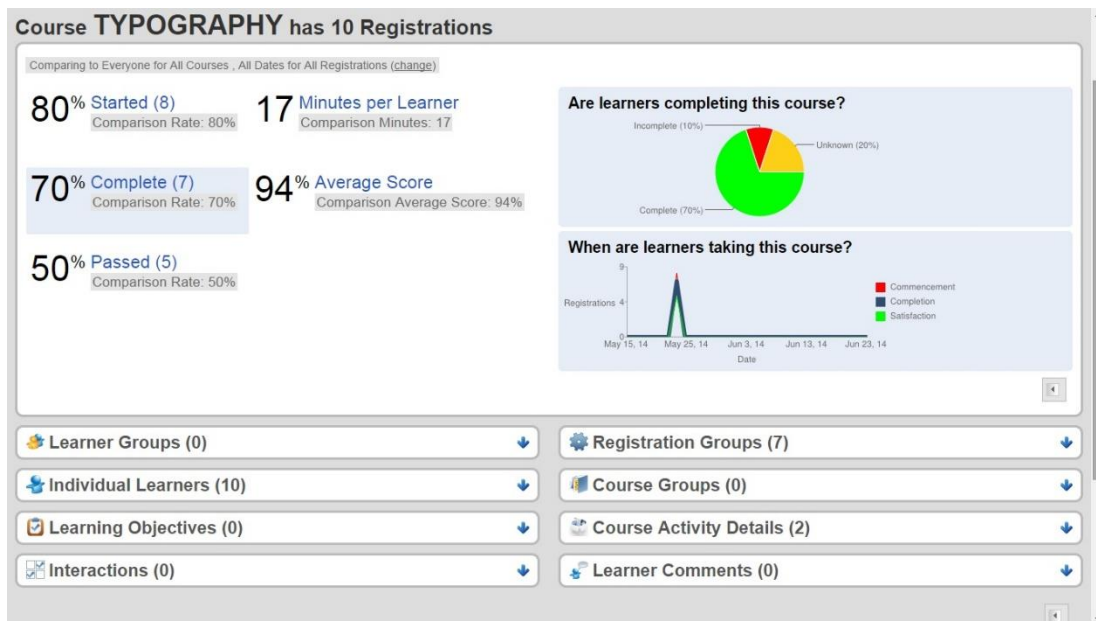
Fig. 26 *cloud.scorm.com Page 3*

In this figure, it shows that a percentage of each learner completes the course. In this case, 70% (7/10) of learners completed the course. According to the pie chart, 10% of students were incomplete, 20% were unknown, and 70% completed the course.
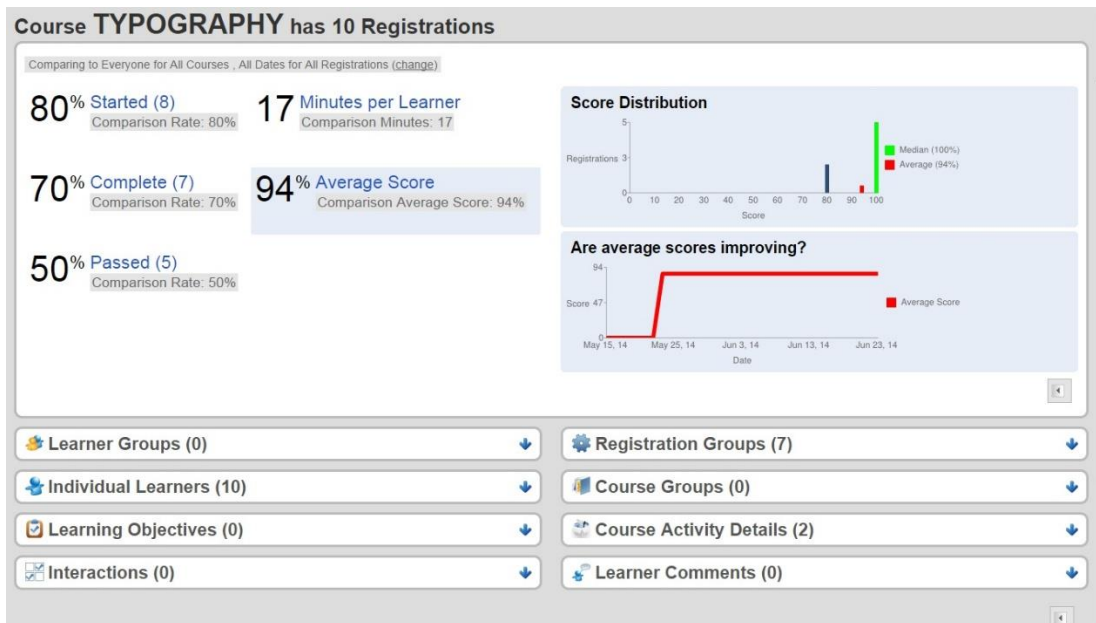
Fig. 27 *cloud.scorm.com Page 4*

In this figure, it shows the percentage of the average score in the Typography online course. This average score includes only those registrations where a score has been reported. Courses and attempts without scores are simply excluded. Scores displayed here are normalised, which means the score is made to fit a scale of 0 to 100%. For this course, the average score was around 94%.
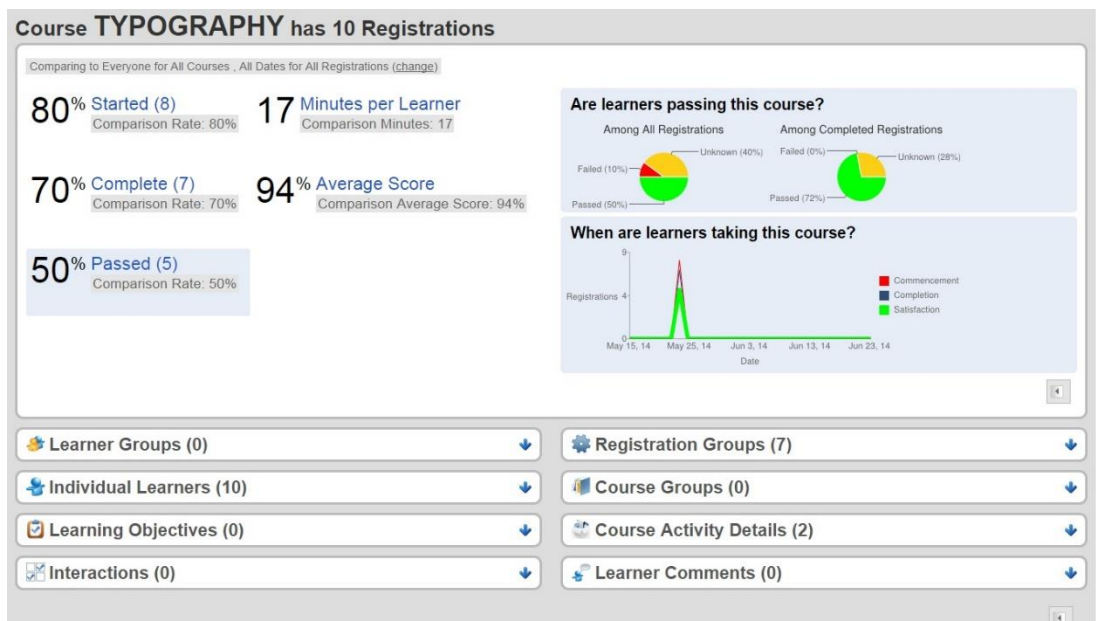
Fig. 28 *cloud.scorm.com Page 5*

In this figure, it shows that a registration is considered passed when the learner satisfies the tasks defined by the content author. The percentage of participants who passed this course is 50%, which means 5 out of 10 participants passed. According to the pie chart, among all registrations, 10% failed, 40% were unknown, and 50% passed. Among completed registrations, 0% failed, 28% were unknown, and 72% passed.
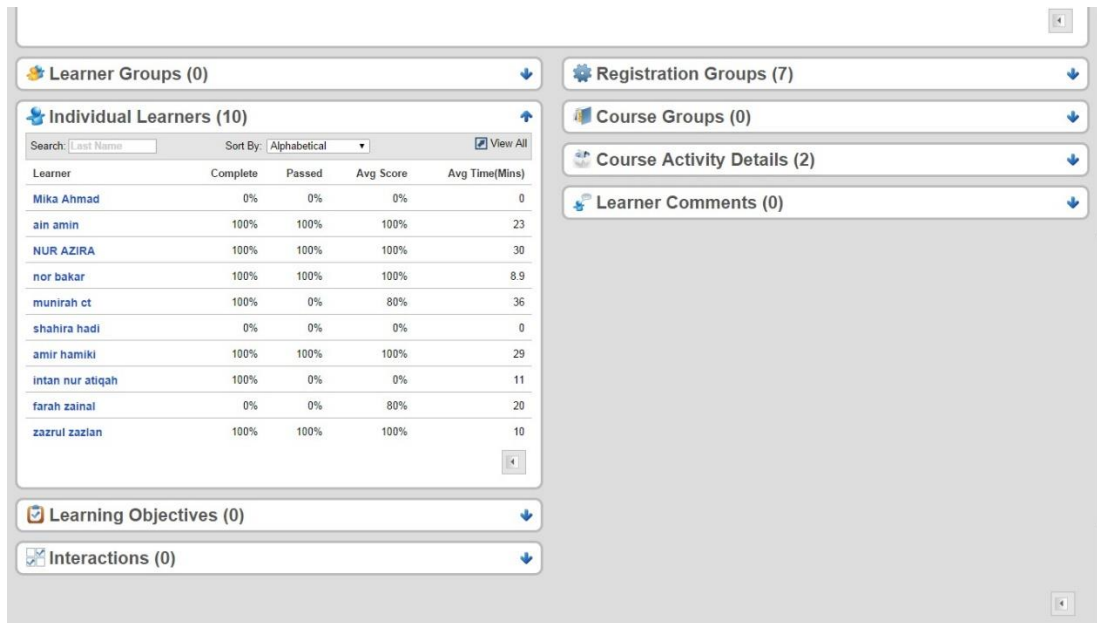
Fig. 29 *cloud.scorm.com Page 6*

In this figure, it shows the complete and detailed information of participants who registered for this online course. Here, it will describe the time that each learner spent on the online course, which one of them completed it and which one did not, and also include the average scores.
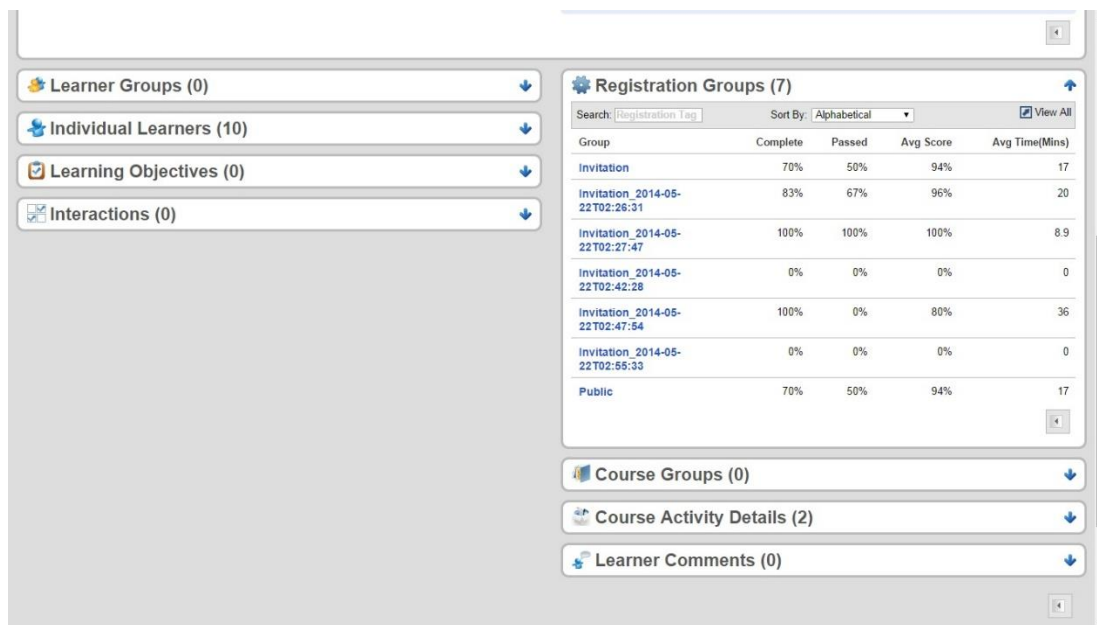
Fig. 30 *cloud.scorm.com Page 7*

In this figure, it shows information about the group's registration. This group's registration allows the application to define and report on subsets of the registrations. It also determines how registrations are grouped and controls them appropriately. In this case, there were specific groups from a different invitation with different scores.

5.2.1.2 Post-Test Result Using The freeonlinesurveys.com
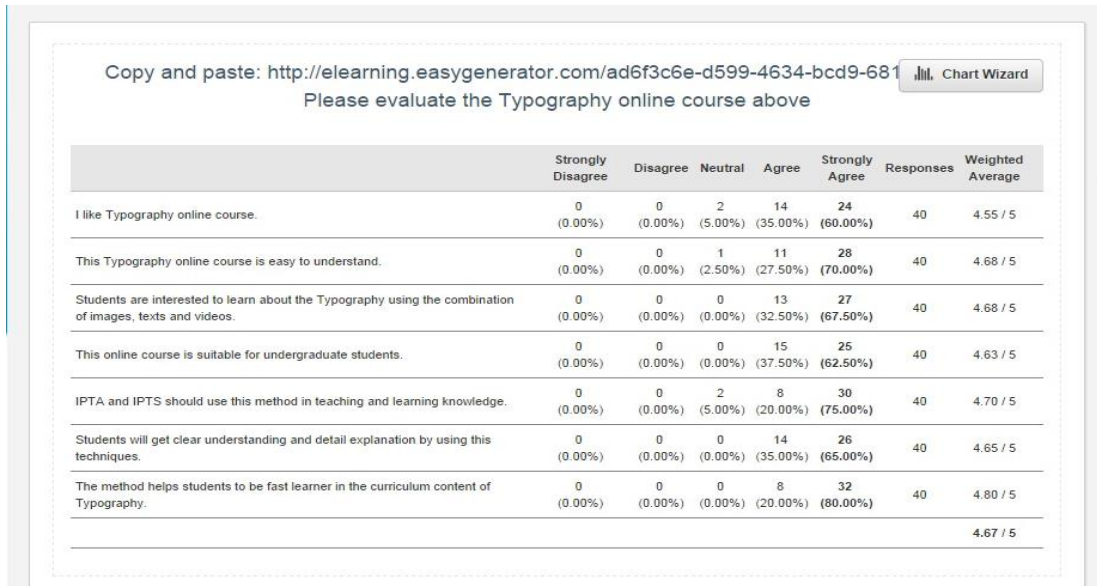
Fig. 31 *freeonlinesurveys.com Page 1*

In this figure, it shows the survey result for the Typography online course. There are 40 participants involved in this survey. By using the Likert scale, this survey measures how participants react to the Typography online course. 24 respondents, which is 60% of them, strongly agreed that they liked this typography online course. Only 2 respondents, or 5% of them, were neutral. 28 respondents, which is 70% of them, strongly agreed that this typography online course is easy to understand. Only 1 respondent, or 2.5% of them, was neutral.

27 respondents, or 67.5% of them, strongly agreed that students are interested in learning about typography using a combination of images, texts, and videos. None of them disagreed with these statements. 25 respondents, or 62.5% of them, strongly agreed that this online course is suitable for undergraduate students, and none of them disagreed with this statement. 30 respondents, which is 75% of them, strongly agreed that IPTA and IPTS should use this method in teaching and learning knowledge, and none of them disagreed with these statements.

26 respondents, which is 65% of them, strongly agreed that students will get a clear understanding and detailed explanation by using these techniques, and none of them disagreed with these statements. 32 respondents, which is 80% of them, strongly agreed that this method helps students be fast learners in the curriculum content of typography.

Fig. 32 *freeonlinesurveys.com Page 2*

Copy and paste:http://elearning.easygenerator.com/ad6f3c6e-d599-4634-bcd9-68194be09e75Please evaluate the Typography online course above
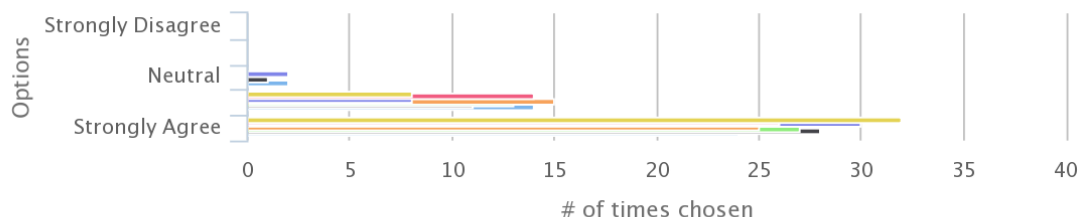
like Typography online course.

This Typography online course is easy to understand.

tudents are interested to learn about the Typography using the combination of images, texts an

This online course is suitable for undergraduate students.

PTA and IPTS should use this method in teaching and learning knowledge.

tudents will get clear understanding and detail explanation by using this techniques.

he method helps students to be fast learner in the curriculum content of Typography.

Fig. 33 *freeonlinesurveys.com Page 3*

6. Recommendation

In the future, I do recommend to any other researcher who is interested in the research on typography to ensure that the knowledge of typography will never end here, because typography is one of the major sections in graphic design. Nowadays, we can see the impact of typography on the advertising industry. If there is the wrong setting of typefaces in a certain product design, we cannot assume that people will buy it or appreciate the overall design.

That is why we should learn it from the root: the history of typefaces and their main functions, as supported by Robert Bringhurst [2]. So, all typographers or even graphic artists should be more aware of and concerned about this particular issue. Typography is all about communicating; without typography, the visual content of the graphic artwork will be nothing at all; it's like a soul without a heart, as supported by Emil Ruder [12].

7. Conclusion

As stated by Shiu Ram, sharing and managing curriculum content through online learning (e-learning) can advance knowledge by showing a good result, which is the result for the prototype test, which is excellent [5]. This research on the curriculum model by using new media gives a new perspective that students at this stage really understand the content of the electronic learning and give good responses by answering all the questions, with the majority of participants giving a good response to the online courses.

There were two post-test results, and each of the results showed that the online courses can be a support material for education, either in the process of learning or even in understanding. Overall, the results support that this online course is suitable for undergraduate students, those IPTA and IPTS should use this method in teaching and learning courses, and that students will get a clear understanding and detailed explanation by using these techniques.

8. Online License Transfer

By publishing in journals under Penerbit UTHM, the authors implicity transfers copyrights of their article to Penerbit UTHM. All authors are required to complete the Procedia exclusive license transfer agreement before the article can be published, which they can do online. This transfer agreement enables Penerbit UTHM to protect the copyrighted material for the authors but does not relinquish the authors' proprietary rights. The copyright transfer covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microfilm or any other reproductions of similar nature and translations. Authors are responsible for obtaining from the copyright holder, the permission to reproduce any figures for which copyright exists.

References

[1] Weingart, W. (1972), How Can One Make Swiss Typography? Michael Bierut, Jessica Helfand,

[2] Bringhurst, R. (2004), The Elements of Typographic Style Version 3.0. Canada: Vancouver.

[3] Kelly, J. (2004). Teaching Typography: Integrating the Old and the New [Review of the book The Education of a Typographer] Skyhorse Publishing Inc. 2012. Retrieved June 20th, 2014, from http://books.google.com.my/books

[4] Hall, M. & Patricia A. Russac (July 1st, 2013). Innovation Design in Education. Why Teachers Should Care About Typography [Web log post]. Retrieved June 16th, 2014, from http://theasideblog.blogspot.com

[5] Ram, S. (2008). School of Computing and Information Technology. Teaching Data Normalization: Traditional Classroom Methods versus Online Visual Methods A Literature Review. (p. 327-330) Retrieved June 10th, 2014, from http://www.citrenz.ac.nz

[6] Griffiths, J., Podirsky, M., Deakin, S. & Maxwell, S. (2002). Flinders University 2010. Traditional Teaching. Novak (1998), Johnson & Johnson (1991). Retrieved June 10th, 2014, from http://ehlt.flinders.edu.au

[7] McLuhan, M. (1964). Understanding New Media. (p. 1-14). Retrieved June 11th, 2014, from http://www.peterlang.com

[8] Gruendler, S. (2014). It's not how we teach typography, it's how we learn typography. Retrieved June 12th, 2014, from http://www.commarts.com

[9] Niron, I. (2009). The Importance of Environmental Graphic Design in Human Life and Its Affection. (p. 1-14) Retrieved June 12th, 2014, from http://www.as8.it/edu/writing/GD494_niron.pdf

[10] Knight, C. & Glaser, J. (2012). When Typography Speaks Louder Than Words. Retrieved June 10th, 2014, from http://www.smashingmagazine.com

[11] Itkonen, M. (2007). Typography and Readability. (p. 1-8). Retrieved June 12th, 2014, from http://papunet.net

[12] Ruder, E. (1965). Typographie. [Review of Typography Syllabus from Carnegie Mellon University] 2002. Retrieved 15th, 2014, from https://www.cmu.edu

[13] Octavo (1987). An International Journal of Typography. [Review of Typography Syllabus from Carnegie Mellon University] 2002. Retrieved 15th, 2014, from https://www.cmu.edu

[14] Ask.com (2014). Curriculum Model. Retrieved June 15th, 2014, from http://www.ask.com/question/what-is-a-curriculum-model

[15] Pennsylvania State University (2001). Curriculum Model. Retrieved June 15th, 2014, from https://courses.worldcampus.psu.edu

[16] Cabral, M. (2012). Curriculum Models and Identity: Three Stories of Early Childhood Teachers. (p.544-554). Retrieved June 10th, 2014, from http://www.infonomics.society.org

[17] Bloom, J. (2011). Definition of Curriculum. Retrieved June 10th, 2014, from http://www.jeffbloom.net

[18] Stephen, A. (2004). What is Curriculum? (P. 1-2). Retrieved June 14th, 2014, from http://www.gmc-uk.org

[19] Walker, S. (2001). Typography and Language in Everyday Life: Prescriptions and Practices. England: Pearson Education Limited.

[20] Biggs, J. R. (1968). Basic Typography. London: Faber and Faber Limited, Great Britain: Shenval Press.

[21] Lewis, J. (1966). Typography / Basic Principles, Influences and trends since the 19th century. London: Studio Books, New York: Reinhold Publishing Corporation.

[22] Day, K. (1956). The Typography of Press Advertisement. London: Ernest Benn Limited.

[23] University of Canterbury (2014). Definition of Undergraduate, Graduate and Postgraduate. Retrieved June 11th, 2014, from http://www.canterbury.ac.nz

[24] What do 'undergraduate' and 'postgraduate' mean? (University of Cambridge: Institute of Continuing Education 1873-2013). Retrieved June 10th, 2014, from https://www.ice.cam.ac.uk

[25] Mifflin, H. (2009). The American Heritage® Dictionary of the English Language (4th Ed.). Boston: Houghton Mifflin Company. Retrieved June 10th, 2014, from http://www.thefreedictionary.com/undergraduate

[26] Curtin University (2012). What is Undergraduate Study?. Retrieved June 11th, 2014, from https://askcurtin.custhelp.com

[27] Festoon Media (2010). New Media Branding: A Comprehensive Study. (p. 1-13). Retrieved June 11th, 2014, from http://www.festoonmedia.com

[28] Manovich, L. (2007). What is New Media?. (p. 5-10). Retrieved June 11th, 2014, from https://www.mcgraw-hill.co.uk

[29] Yee, J. S. R. (2010). Relearning Typography: Introducing a Cross-Disciplinary Typographic Framework. (p. 1-11). Retrieved June 12th, 2014, from http://www.designdictator.com

[30] Brownie, B. (2007). One Form, Many Letters: Fluid and Transient Letterforms in Screen-Based Typographic Artefacts. (p. 1-15). Retrieved June 12th, 2014, from https://www.google.com.my/

[31] Bachfischer, G. & Robertson, T. (2005). From Movable Type to Moving Type Evolution in Technological Mediated Typography. (p. 1-13). Retrieved June 12th, 2014, from http://research.it.uts.edu.au

[32] Manovich, L. (2002). Avant-garde as Software. (p. 1-11). Retrieved June 12th, 2014, from http://www.uoc.edu

[33] Cho, P. S. (1999). Computational Models for Expressive Dimensional Typography. (p. 1-84). Retrieved June 12th, 2014, from http://acg.media.mit.edu