CHAPTER II
REVIEW OF RELATED LITERATURE

In this chapter, the researcher discusses the theories related to the research problems. To be more specific, this review of related literature discusses about the definition of digital portfolios, types of portfolios, the history of digital portfolios in education, the function of digital portfolios, the differences between traditional portfolio and digital portfolio and its advantages, the difficulties of portfolio and problem-solving faced the difficulties.

A. Review of Related Literature

1. Blog

   a. The Definition of Blog

   Blog is one of online media which is growing in recent year and giving contribution in education. The existence of blog changes the ways transferring language learning. It helps students in acquiring and learning language. Wherever learners want to learn, they can access their own blogs or others.

   Greg cited Rebecca Blood’s definition of blog that is a frequently updated webpage with date entries, new ones placed on top.¹

Furthermore, Aaron Campbell defines blog or weblog can be thought of as a journal that an individual can continuously update with his or her own words, ideas, and thought through software that enables one to easily do so.² Blog is different from other online publishing websites, it is easy to modify and personalize by the owners. Moreover, Nisa distinguish blog with other social software, such as wikis and podcasts. She proposes that:³

a. Blog is similar with a personal diary.

b. Wikis is described as a website which consists of a number of collaborative web-pages, then

c. Podcast contains audio or video file broadcast and they can be accessed via internet.

b. Types of Blog

Today, blog become popular as a tool for media in learning and teaching language. According to Aaron Campbell there are three types of blogs for use with language class.

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a) The Tutor Blog.

This blog is a blog which is made up and controlled by a teacher of a class. It means students are not to be able to leave comments to teacher’s post. Sometimes this blog uses for some activities such as⁴:

- Giving students’ daily reading practice which the text posted by teacher to make them use English continuously.
- Giving information related to the lesson, such as homework, syllabus or course information.
- Giving students’ chance to open some resource of links for self-study.
- Communication of online verbal happened through giving comment on post.
- Giving students’ opportunities to explore the English website.

b) The class blog.

The class blog is a blog which is the result of the collaborative works effort of an entire class. In the other word, all students’ post

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and activities are collected in one blog. According to Arron Campbell some possible uses on the class blog are:

a. Designing free-form bulletin board for conversation based-class.

b. Giving opportunities for intermediate and advanced learner for facilitating project based language learning, especially in writing.

c. Involving the use of knowledge management in reading and writing classes.

c) The learner blog.

The learner blog is a blog which personally set up by student or small collaborative group of learners. This type of blog probably uses for:

a. Reading and writing activities for students.

b. Encouraging students to use search engines and net surfing in English.

c. Giving students opportunity to create journal for practicing their writing skill.
d. Developing a sense of ownership for students with practical, legal and ethical issues of creating hypertext document.\(^5\)

2. Digital Portfolio

a. Definition of Digital Portfolios

Portfolio itself is derived from English, which means as a collection of student work in form of documents or letters for a particular purpose and selected based on certain guidelines. According to Barrett, portfolio is a collection of work that a learner has collected, selected, organized, reflected upon, and presented to show understanding and growth over time.\(^6\) Jones and Shelton also state portfolios as:

“Rich, contextual, highly personalized documentaries of one’s learning journey. They contain purposefully organized documentation that clearly demonstrates specific knowledge, skills, dispositions and accomplishments achieved over time. Portfolios represent connections made between actions and beliefs, thinking and doing, and evidence and criteria. They are a medium for reflection through which the builder constructs meaning, makes the

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\(^6\) Hellen Barrett, ”Using Electronic Portfolios for Classroom Assessment. (Connected Newsletter: Vol. 13, No. 2, 2006), 4-6
learning process transparent and learning visible, crystallizes insights, and anticipates future direction”.

Moreover, digital portfolios have many terms in education research. Siemens agreed that digital portfolio, electronic portfolio or webfolio are referred as e-portfolios. In this research, the term of Digital Portfolio is used by researcher. Before the researcher explains more the use of digital portfolio in education, it is better to know the definitions from experts. There are many definitions of digital portfolios exist as follows:

a. Linda defined Digital portfolios as a computer-based portfolio in which all learning artifacts are converted to computer readable format and are accessible through the World Wide Web.9

b. Lewis and Fournier stated that digital portfolios or ePorfolios are student artifacts, or official document of students experience and

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7 Marianne Jones and Marilyn Shelton, “Developing your portfolio enhancing your learning and showing your stuff: a guide for the early childhood student or professional”, (New York: Routledge, 2011), 21-22
8 Siemens, G. “ePortfolios”.(www.elearnspace.org/Articles/eportfolios.htm, accessed on august 6, 2016)
achievement in learning, or as an assessment tool that stored in web display tool.10

c. According to Lorenzo and Ittelson, electronic portfolio is a digitized student collection of artifacts including demonstrations, resources and accomplishments that represent an individual, group or institution.11
d. E-portfolio contains evidence of, and reflection upon, their curricular achievements.12

On the other hand, Challis also explained more depth definition about digital portfolio. He proposes some advantages of e-portfolio as follows:

a. Able to choose and structured collections of information.
b. Use for specific purposes or as evidences of student progression in learning.
c. Allow to save in digital format and to control some appropriate software.

10 Lewis - Fourner. A catalyst without a mandate. In D. Cambridge, B. Cambridge and K. Yancey (Eds.), Electronic Portfolios 2.0: Emergent research on implementation and Impact. (Sterling, Virginia, 2009), 45
12 Johnson and DiBiase, “Keeping the horse the cart: Penn State’s eportfolio” initiate (Educause Quarterly, 27(4),2004), 18
d. Maintain by appropriate multimedia Developed by using appropriate multimedia on internet.

e. Obtain from many resources such as website, CD-ROM and DVD.\textsuperscript{13}

From those definitions, Digital portfolios can be concluded as type of online working environment which consists of many digital artifacts and it stored in many digital formats that made by students.

b. Types of Digital Portfolios

Digital portfolios in education have various types and they depend on purpose of digital portfolios in education. According to Tartwijk et al. Digital portfolios have five types with the different aims in the each application, those are: \textsuperscript{14}

a) Assessment portfolios

Assessment portfolios is aimed to assess students work only such as students’ product, photo, evaluation or video. Assessment portfolios aim to guarantee that students already provide assessors all the needed information for the assessors, to prove students

\textsuperscript{13} D. Challis, “towards the mature e-Portfolio: Some implications for higher education”. \textit{Canadian Journal of Learning and Technology}. 2005. 31

\textsuperscript{14} Driessen, E.W., Tartwijk, J. van, Overeem, K. Vermunt, J.D. & Vleuten, C.P.M. van der (in press) “Conditions for successful reflective use of portfolios”, \textit{Medical Education} (accepted, not yet published)
competence and to motivate students through the products they made.

b) Showcase portfolios

Showcase portfolios are portfolio which used to gives students opportunity to create their own work as they want. This condition motivates students to create their best work and in every project. This kind of portfolio allows students to be more creative and innovative and motivate them in learning through technology use.

c) Development portfolios

Portfolios may also be designed and aimed as an instrument to keep on track and plan a student’s development refers to development portfolios. The role of student competence at the beginning of class is needed to be able to obtain a degree. That is why students must have planning and direction of further development. Obviously the use of development portfolios only makes sense where there is room for individual development.

d) Reflective Portfolio

Reflective portfolios are portfolios which used to know student development by evaluating students themselves. It is important for
student to reflect on how their learning and achievement relate to their goals of learning. This type of portfolio allows students to write their reflection about the competence that should be mastered by students.

e) Combination

This type of Portfolios is mixed from three type portfolios mentioned above. This portfolio is rarely found because it used for a number of different purposes.

c. The History of Digital Portfolios In Education

Digital portfolios were adopted in education because the development of technology grown up in education. The existence of digital portfolios provides a media to collect their products in various types (video, audio, graphic and texts) that they already made before. Portfolio applied in education by Drew Gilmore, Howard Gradner and Dinnie Palmer in 1980’s. They explored the use of portfolio in writing, music and arts which focused on learning only. in the development of digital education portfolio had various purpose, objective and uses. The purpose of portfolios divided into three parts:

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a. Showcase of student assignment

b. Demonstration of learning

c. Learning assessment tool

Herman and Winters stated that there were 89 entries portfolio assessment topics. This phenomenon found 10 years ago and there were seven articles reported technical data or employed acceptable research methods”. Most articles in their studies found explained rationales, presented ideas and models for how portfolios are constructed or used, or shared ideas on implementation. They also provide the examples of the reliability and validity of three portfolio models, all from the K-12 environment (a term used in education which the language learning used by technology usage). Their focus was on the reliability of scores given to the portfolios. They seem to view portfolios as a product created by students to be evaluated (scored).

Barret, Wilkerson, Lorenzo and Ittelson stated showcase portfolios as student products that are evaluated based on rubric. Barret also distinguished between portfolio assessment that:

- To address the need for accountability and portfolio assessment.
- As a showcase for learning.

To describe capabilities which not covered by standardized testing.

Then she concluded that portfolios is effective to use for assessment of learning and it also support assessment of learning.\textsuperscript{17}

The use digital portfolio itself become very popular and can grab students’ attention in learning language in education institution. Batson explain that there were three trends that digital portfolios usage becoming common interest, those are:

a. Nowadays, most students work used digital form, such as reports, proposal, papers, etc.

b. Most students rapidly accessed websites everywhere and anywhere through internet connection.

c. Students are able to manage their work by the existence of database through website.\textsuperscript{18}

d. The Function of Using Digital Portfolios

In the implementation of digital learning in education, there are many functions that got by students. According to Graham Attwell,


\textsuperscript{18} Batson. The electronic portfolio boom: what’s it all about syllabus, 2002
there are seven key functions for digital portfolio which can be described against pedagogical processes and objectives.\textsuperscript{19}

a. Recognizing Learning:

Digital portfolio can be meant to recognize smaller learning achievement rather than Learning in a formal environment is usually recognized when pre-specified products are achieved.

b. Recording Learning:

A digital portfolio can be used to record formal and informal learning.

c. Reflecting on Learning:

Through digital portfolio, students can reflect their learning process because it allows student use it for private and public reflection.

d. Validating Learning:

Validation learning means to prove that learning has happened. This can be form in different media. Digital portfolio can be used as self-validation or a validation written from other persons.

e. Presenting Learning:

\footnote{Attwell Graham, Recognizing learning: Educational and Pedagogical issues in e-Learning Portfolios, 2005, 2}
This presentation can be used for job application or for academic application. Due to the importance of lifelong learning this presentation can change over time.

f. Planning Learning:
Allow student to plan their learning process can be planned the help of digital portfolio. It can be seen through students learning history in her or his digital portfolios and also can be seen from his or her next steps in personal competency development.

g. Assessing Learning:
As a controller and judgment through student achievement in the result of learning assessing.

e. The Advantages Digital Portfolios in Education
In the implementation of digital portfolio brings variety changes in education, from the traditional to digital portfolio. According to Kristen Steele, She cited number of authors, from Challis, Abrami, Barrett and Strudler and Wetzel that there are many differences between traditional portfolios with digital portfolio. Digital portfolios provide students to:

a. Ease them to search, records can be retrieved and organized with the simple way.
b. Time efficiency.

c. Understand more comprehensive and rigorous

d. Allow students to get more extensive material, such as photo, audio, animation, graphic design and video.

e. Provide cost effective to distribute.

f. Ease to access anywhere and everywhere.

g. Ease to carry and share with classmates or public.

h. Allow fast feedback.

i. Allow students develop the skill as the creator to do the best in their work (showcase). 20

She also elaborated multitude of benefits of electronic portfolios for student in his research. The following summarizes the main points made in the literature of digital portfolios are:

a. As evidence of learning.

Digital portfolios actively involve students in demonstrating past learning and current learning and help them to make connection between course projects and non-academic projects. Digital portfolios also facilitate student in learning by providing rich picture

of student learning. In essence, digital portfolios help students to establish its goal and expectation.

b. Increase skill development.

Digital portfolio allows students to develop their skill in developing multimedia technology. It is also a way to showcase technology skill. Showcase refers to the way student to show their best work in the result of learning.

c. Give quick and regular feedback.

Quick feedback can be received by students throughout the process of constructing their portfolios.

d. Reflection

Encourage students to reflect on their work and their reason for choosing sources in their portfolio.

e. Psychological benefits

By creating digital portfolios, students have a sense of pride in their work, a sense of ownership, and a feeling of satisfaction.

f. As Assessment tool for students.
Engage student in the evaluation and assessment process by revisiting and refining their portfolios. Thus, it can gain students understanding of the assessment process and students can use their skill to improve their learning.

g. Easy to maintenance

Digital portfolios allow students to maintain, edit and update the content easily.

h. Accessible

Digital portfolio is accessible rather than traditional portfolio. Student still can work their digital portfolios anytime and the supervisor can review and assess portfolio.

i. Large of Storage

Digital portfolios are easy and efficient to store rather than traditional portfolios need large binders full of paper.

f. Cost efficiency

Creating digital portfolios is cheap and save money because they can be produced and created through various software.
In the implementation of digital portfolio also have many advantages rather than paper portfolio or traditional portfolio in education. A textbook entitled “A Portfolio for Beginner” distinguish the difference and its advantages about digital portfolio on the table below:

**Table 1.1**

The differences of paper portfolio and digital portfolio

<table>
<thead>
<tr>
<th>Paper Portfolio</th>
<th>Digital Portfolio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can be worst and damaged over time, simply effect environment degradation, such as sunlight, moisture, etc</td>
<td>Long-lasting</td>
</tr>
<tr>
<td>Often discontinuous and time-bound</td>
<td>Provides continuity and can be lifelong</td>
</tr>
<tr>
<td>Not easily mobile, transport can be difficult</td>
<td>Totally mobile</td>
</tr>
<tr>
<td>A reproduction can be very time consuming and inevitably will not look as good</td>
<td>Freely and easily reproducible</td>
</tr>
<tr>
<td>Table of contents and possibly an index, requires physical presence. Can be slow to cross reference instances of a given ‘term’</td>
<td>Fully searchable – instantly and always available to be searched</td>
</tr>
</tbody>
</table>

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<p>| Not easily and certainly not simultaneously | Enables collaborative work |
| Could be a limited and time-bound resource | Can be a ‘live’ resource for others |
| Needs to be physically present | Easily reviewable by anyone, anywhere, anytime |
| Needs to be copied and then distributed to enable multiple viewers or markers | Can be read, peer reviewed, or marked by multiple viewers simultaneously. I.e. it has a feedback loop |
| Fixed layout and format | Allows different organizational ‘views’ of the one set of core resource material |
| Different layouts are difficult to produce and are always (paper) media bound or may also contain discrete additional media samples | The views represent different functions for the e-Portfolio: progression, process, showcase, competencies, etc |
| Structured is fixed | It may be linear, or hierarchical in structure, or neither, or both |
| Not unless done within the classroom | Allows learner/teacher interaction |
| Impersonal – generally does not reflect feelings and emotions | Provides student voice – feelings and emotions |
| Improves finger dexterity in turning pages | Improves the learner’s ICT literacy skills |
| Not easily editable | Easily and always available for editing |
| Expensive to do so – needs copied and transported | Easily communicated to any size, type and location of audience |
| Can be, but more difficult to include reflections | Intended to encourage reflective practice |</p>
<table>
<thead>
<tr>
<th>Must be physically transported and present</th>
<th>Infinitely extends the classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Must be physically transported</td>
<td>Can be accessed anytime and anywhere</td>
</tr>
<tr>
<td>Content and organization mainly driven by teacher</td>
<td>A personal approach to learning that grows with the learner maturity</td>
</tr>
<tr>
<td>Often tends to be assessment focused</td>
<td>Development focused</td>
</tr>
<tr>
<td>Once out of the owner’s hands she/he has no control over access or comments</td>
<td>The owner has total control of the sharing and commenting capability</td>
</tr>
<tr>
<td>Owner could possibly provide remote instructions to direct a third party to access a document/book</td>
<td>Does not have to be in possession of the owner to be accessible and usable</td>
</tr>
<tr>
<td>Can be lost or easily damaged</td>
<td>Document stored in internet are secure and difficult to lose</td>
</tr>
<tr>
<td>Paper-based media only – text, images, diagrams, charts. May have discrete additional media samples</td>
<td>Multi-media – text, charts, graphic images, sound, video and all combinations</td>
</tr>
<tr>
<td>What you see is what you get</td>
<td>Can include embedded files</td>
</tr>
<tr>
<td>Manual references can be provided – often difficult and slow to follow-up</td>
<td>Can link directly and immediately to other references</td>
</tr>
</tbody>
</table>

Another author like Abrenica also distinguished the benefits of using digital portfolios with traditional paper portfolios and they explained that electronic portfolios:
a. Providing great information from pictures, artwork and other digital format.

b. Digital format can be added additional media such as music, pictures, graphic and video.

c. Digital portfolio takes less space, different from traditional portfolio which needs boxes, tapes and binders.

d. Easily organized the works which are saved through electronic format.  

f. The Disadvantages Digital Portfolios in Education

Although digital portfolio was applied in higher education for several years, there are still problems and challenges occurred in daily practice. According to some of authors stated that the difficulties and challenges relating to digital portfolios are

a. Abrami and Barret stated technical knowledge to create different types of portfolios caused problems and it may become disadvantages for students.

b. Challis considered people who allowed to access the digital portfolios.

22 Abrenica, Y., “Electronic portfolios.” (http://edweb.sdsu.edu/courses/edtec596s/students/Arbenica, accessed August 16, 2016)
23 Van Tartwijk J, Driessen, E., & Rubens, W. “Functions of electronic portfolio’s in higher education” P. Boezerooy & P. Gorissen (Eds.), Dutch e-learning in Europe, (Utrecht: Surf Foundation, 2004), 8-10
c. Students’ privacy and copyright of their work.

d. Barret and Knezek said that electronic portfolio users need a balance between structured templates and self-directed portfolio tools.

e. Electronic takes longer time which are portfolio participants need technology skill or adequate training to gain those skills.

f. Encountered frustration and stressful for students who don’t have technology skill.

There are more digital portfolios disadvantages encountered in education. According to DiBiase stated that:

a. Time consuming

Digital portfolio need time consuming to create, maintain, and evaluate digital portfolios (especially when ICT-skills of students and teachers need some improvement).

b. Cyber-plagiarism

Digital portfolios assignment potentially can influence cyber-plagiarism. Because the availability of students’ assignments in digital Portfolios will increase the number of online sources material from which students may be tempted to copy illicitly.

c. Privacy issue

g. Students Perception about Digital Portfolio

According to Fieldman, perception is a constructive process which we go beyond the stimuli that are presented to us and attempt to construct a meaningful situation.\footnote{Fieldman S. Robert, “Understanding Psychology”, Fifth Edition (MCGr aw Hill, 1999)} Whereas Morgan stated that perception refers to the way the work, sound, feel, tastes, or smell. In other works, perception can be defined as whatever is experienced by a person. Based on the definitions can be concluded that perception is the way someone think and behave formed and influenced by beliefs and experiences happened.

The use of digital portfolios in higher education has different purposes. From a student’s perspective, digital portfolios include four primary purposes: visibility, learning, employment, and assessment.\footnote{Ritzhaupt, A. D., Singh, O., Seyferth, T., & Dedrick, R. Development of the electronic portfolio student perspective instrument: An e-portfolio integration initiative. (Journal of Computing in Higher Education, 2008), 19(2), 47–71}
In the creation and dissemination, students need pedagogical and technical support. These factors are illustrated in Figure 2.1

- **Learning**

  By using digital portfolios, it can be used by students for learning purpose through reflection and revision. Reflection here means to how student should use their digital portfolio for self-assessment and to reflect on the feedback from peers as a learning experience, whereas revision refers to student improving their work as a result of reflection. The use digital portfolios aimed to develop
and monitor students’ skill and knowledge continuously to support students’ lifelong learning.

- Visibility

As a way students feel stakeholders observing the content of students’ digital portfolio refers to visibility. Digital portfolio also used for representing students’ skills, knowledge and dispositions and how stakeholder viewing students’ digital portfolio interconnected.

- Assessment

Students perceive the use of digital portfolios as a form of alternative and authentic assessment, it supported by some educators that have used it for assessment in higher education. For instance, lecturers can use digital portfolios for assessment for specific assignment and as graduation requirement for program study. By the existence of digital portfolios for assessment, students can perceive. This is focuses on how students perceive as better or equal tradition method of assessment.

- Employment

Concerning with how students Employment is concerned with how students perceive the utility of their digital portfolio for specific
purposes in several discipline such as journalism or graphic design for their lifelong learning.

- Support

Providing student to support their digital portfolios to be created and maintained. Support must account two things, pedagogical and technical aspects of digital portfolios.

3. The Use of Blog for Digital Portfolios

Blog is not new website used to store documents in any format. There are three reasons why blog used for make a good digital portfolio:27:

a. Using blog, allow students to store and organize content in several dynamic ways including chronologically (like a diary) or personalized tagging systems.

b. Blogs also have the capability to present a personal profile to the world (like a website).

27 Creating e portfolio using wordpress.com (https://le.ac.uk/offices/careers-new/information-for-students/apps/online-networking/creatingaeportfolios.pdf, accessed August 16, 2016)
c. Blogs also enable people who are interested in development to follow activities easily using RSS feeds (like subscribing to a newspaper).

4. Factors & Kinds of Difficulties in Digital Portfolio

In doing something, there are some factors affecting difficulties. According to Dalyon, there are two factors affecting difficulties, they are internal factors and external factor. Usually, internal factors exist inside person whereas external factors exist outside their self.

a. Internal factors

There are two causes of internal factors, first causes from physical of students (e.g. sick and physical defect), second, cause inside their bodies (e.g. intelligent, motivation, talent and interest). 

a.) Intelligent

Every student students have various intelligent in learning because it has significant role in learning process. Students probably failed in learning process because they don’t have balance in learning.

b.) Motivation

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28 Dalyono, M., “Psikology pendidikan”. (Jakarta:RinekaCipta.1997), 239
Motivation is also main factor when student learn something.
Without having big motivation, Students will be lazy and uninspired in learning process

c.) Talent
Talent is one of successful key to achieve the goal or objectives in learning. Every student has different talent and it influence them in learning. If students aren’t suitable with her or his talent, they can fell bored or unmotivated in learn the lesson.

d.) Interest
Each student has different interest to lesson. By having interest in lesson, student will enjoy the lesson and ease them to achieve the material of the lesson.

b. External Factors
There are two external factors that influence students’ difficulties, family factor and school factor.

a) Family Factor is about situation and condition how parents treat their children in education and cause economic problems.

b) School factor is about condition and situation occurring in school.
For example, teacher factors: lack of teacher interaction with students, lack of teacher knowledge and method in teaching.
Building and facilitation factor, such as lack of facilitation, lack of
internet connection (WI-FI) and lack of media used in teaching and learning.

Difficulties faced by students in using technology such as teachers are lack of experience in using computer or software, lack of helping supervising student when using computers, lack of computer availability, lack of facilities to use computers, lack of financial support and lack of time to study.29

There are several difficulties in the using digital portfolio for lecturers and students in higher education. In introducing portfolio to student, there are several factors should be considered by academic department. According to Dougan pointed that academic department should:

- Decide the portfolio is a suitable means of assessment for the students.
- Decide the purpose of the portfolio.
- Decide the content of the portfolio
- Decide when and how the portfolio will be presented for evaluation.

29Mumtas Shazia, “Factor Affecting Teacher Use Of Information and Communication Technology : A review of Literature”. (United Kingdom,University Of Warwick, 2000)
• Decide the evaluation criteria

Possible issues also occurring in digital portfolio are physical and sensory difficulties:

- **a. Exploring Opportunity and clarifying the task**
  This probably happened because there were certain projects could be inappropriate, restrict asses to resource and situation, speech or other impairment could limit ability to communicate and approach the task and difficulty when making the media.

- **b. Generating developing and communicating the design**
  In producing Drawing, Organize the idea, Concept and make the solution, Frustration and failure caused by restricted method.

- **c. Planning and Making**
  Student may have difficulties in manipulation and coordination, lack of accuracy and quality and unfair dependence group works.

- **d. Testing evaluation and modifying**

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Students may have difficulties of failure, there are some students who have low level education in technology or they have little interest and students want to finish quickly\(^{31}\).

According to Ausumbel statement, which is supported by a number of author, Kolb, Honey, Munford and Habermas that the difficulties in using digital portfolio or media in learning English caused by choosing the content of the material than technology used. Students need to do carefully on the content of material than choosing the technology use. From that statement, it describes that the difficulties of digital media is provided appropriate content of materials\(^{32}\)

Gestalt Psychologists, included Pieget, state that the material should be meaningful agrees with the theme, and match with students’ need and improvement. Not only providing good design of the media digitally, but also the contents should provide what want to be achieved, dealing with the compatibility with the themes, goals and objectives. The figure of student difficulties can be seen below:

Figure 2.2 Students’ difficulties about digital portfolio


\(^{32}\)Hubbard, Philip., GENERAL INTRODUCTION: Foundations of CALL
The difficulties faced by students occurred because there are some problems occurred with learning digital portfolio. According to Wright et al there are several problem relating to learning using digital portfolio:

- Students are confused about purpose of learning.
- Students possibly have lack of skills in compiling digital portfolio.
- Students have special problems with digital portfolio.
- Students see program portfolio as marginal.
- Faculty do not take portfolio development and students are lack of time to do so.
- Digital portfolio possibly is insufficient teacher planning and preparation.
• Student indifference and resistance

• Direct financial cost (faculty training, program redesign and material).

• Lack of good research evidence about impact and cost.\textsuperscript{33}

Thus Weight et al formulate for success in using digital portfolio, but it transformed into difficulties and problem faced by students:

• Students get little advice or guidance in constructing portfolio by the teacher.

• Student may have extra workload in a busy academic schedule.

• Student may confused with the rules of the game about how portfolio are integrated to their undergraduate experience because poor connection with the goals and structures of a course or program.

• Digital portfolio may provide small value for students because it appears as afterthought to the real business of mastering knowledge.

• Perspective employers are not interested student portfolios.\textsuperscript{34}

Students also have lack of technical knowledge in digital portfolio.

Sunil Kumar stated that many students are not provided the strong


\textsuperscript{34} Wright, W.A., Knight, P.T & Pomerleau, N....., 100-103
internet connection that online course require and fail to catch up with their classmates.\textsuperscript{35} Heath argued that electronic portfolio construction takes time, that all participants of the portfolio development process need technology skills or adequate training to gain those skills, and that technical problems with software or equipment can be very frustrating and stressful.\textsuperscript{36}

Steele also stated that difficulties probably occurred in technical problems to students in implementation of digital portfolio are:

- The need for adequate hardware and software;
- The accessibility of that hardware and software.
- Lack of technology skills amongst students and staff;
- Technical problems with the equipment or electronic portfolio system;
- The need for support when problems are encountered\textsuperscript{37}


\textsuperscript{36} Heath, M. “Are you ready to go digital? The pros and cons of electronic portfolio” development. Library Media Connection: 2005), 23(7), 66-70.

Fournie and Van Niekerk also mentioned general problems faced by students and lecturers when use digital portfolio for a module in research information skill at the university of South Africa:

- Students confused with some of the activities, because it is not clearly explained to them.
- To support the completion of digital portfolio, students’ need for a workshop organised earlier in a year.
- Lecturers got workload if the study material and portfolio activities are not clearly and unambiguously written.
- Lecturers sometimes don’t give comments and/or continuous feedback to students about their growth and strengths in learning.
- Lecturers may not provide enough lecture direction.
- There are possible controversies in grading students work for lecturers.
- Occurring possible misunderstanding that a portfolio and portfolio assessment fits all purposes.\(^\text{38}\)

5. **Problem Solving in facing the difficulties**

According Janssen to solve the problem is a kind of tools which give big effect can use for conceptual change in order for learners to have more

accurate and deeper conceptual understanding\textsuperscript{39}. As learners reach a new developmental threshold, they will be more attuned and self-regulated in their own thinking. In Min Liu research, she that problem solving for students that faced difficulties that can done by the lecture and students exponential growth in information shifted the purpose of education. Using search engine on internet now has become abundant and easily accessible rather than reading the various textbook. It allows students to access many resource of learning and students need assistance to find out information related to their difficulties in technology that need to solve. Students also need to learn how to collaborate with others as they solve these problems and communicate their solutions to their teachers and to the world beyond their classroom\textsuperscript{40}.

With technology enables students support their learning. They can use technology to support their learning by the use of real-world problems, which supports students in making the connection between concrete contexts and abstract concepts. There many ways to solve students’ difficulties in facing their problem when use technology, they are\textsuperscript{41}:

\footnotesize
\begin{itemize}
\item Min Liu, “Designing Technology-Enriched Cognitive Tools to Support Young Learners’ Problem Solving”. Austin. University of Texas.
\item Gleen Stockwell. “Computer Assisted Language Learning: Diversity in research and Practice”. (Cambridge University,2012), 76
\end{itemize}

\normalsize
1. Search to another resources such as searching in the internet or reading other book related to problems, watching video tutorial

2. Collaborative with others such as discussing with classmates, group work, or seeing friend’s assignment

3. Communicating with teacher or lecturer

6. Computer Assisted-Language Learning

a. Definition of CALL

Learning language in any context with, through and around computer technologies referred to Computer Assisted-Language Learning. Then, Graham stated that Computer Assisted Language Learning (CALL) is often perceived, somewhat narrowly, as an approach to language teaching and learning in which the computer is used as an aid to the presentation, reinforcement and assessment of material to be learned, usually including a substantial interactive element. Supporting to Graham, Betty defines Blog is any process in which a learner uses a computer and, as a result, improves his or her language. From those definitions, it can be concluded that CALL is

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the process of learning involves the use of computer as a tool and human
as an operator.

b. History of CALL

The earliest applications of CALL date back to the 1960s.

Warschaue divided the history of CALL into three stages:\textsuperscript{44}

1. Behaviorist CALL:

   It was implemented in the 60s and 70s, and could be considered “a
   sub-component of the broader field of computer-assisted
   instruction.” Informed by the behaviorist learning model, this mode
   of CALL featured repetitive language drills, referred to as drill and
   practice.

2. Communicative CALL:

   It emerged in the late 70s and early 80s. It was also during this time
   that behaviorist approaches to language teaching were being
   rejected at both the theoretical and pedagogical level, and new

personal computers were creating greater possibilities for individual work.

3. Integrative CALL:

It emerged in the late 80s and early 90s while critics pointed out that computer was still being used in a “ad hoc and disconnected fashion”.

B. Previous Studies

Several studies have investigated digital portfolios which applied in higher school. There are some previous studies which have similarity with this research. The first research conducted by Linda Ehley on her doctoral dissertation. The title of the research is “Digital Portfolios: A Study of Undergraduate Student and Faculty Use and Perceptions of Alverno College’s Diagnostic Digital Portfolio. The research mainly discussed about the effectiveness of Alverno College’ Diagnostic Digital Portfolio (DDP) by describing and evaluating student and faculty use and perception of the DDP during a one year period applying a program evaluation methodology. The researcher conducted the research with using a three-prong approach consist of three steps, (a) mining of the data DDP database (all graduate students and faculty who logged onto the DDP between January 1, 2005 and June 26, 2005), (b) surveys administered to 324 students and 93 faculty, and (c) post survey
interviews of eight students and nine faculty. And the result of this research is that undergraduate students and faculty were logging onto the DDP and they perceived the DDP as an easy to use, useful tool: a tool student would like to use more often and more consistently. DDP was used by student and faculty has continued to increase since it was implemented in 1999.

The second research has been done by Kristen Steele from Wasighton University School of Medicine. Her thesis entitled “What it takes: Issues in Implementing Electronic Portfolios”. The research problems are about what the issues in implementing electronic portfolios as a school-wide innovation. This research used qualitative research. The purpose of her research were to investigate the issues occurring in the implementation electronic portfolio as a school-wide innovation and to provide a resource guide for the future use of electronic portfolios at central institute for the Deaf. She used observation and interview to obtain the data. In her research, she concluded that electronic portfolios can be more powerful tool for capturing students learning but if it only considered as a way of organizing student work then it will fail to help student in learning. She also added that students and academic staff using an electronic portfolio system need the time, skills and resources to do so successfully implement digital portfolio.

The third research was conducted by David J Emmett entitled “Student Engagement with an ePortfolio: A Case Study of Pre-Service Education
Students”. The purpose of his study was to investigate student engagement with an ePortfolio in one semester including the factors that impacted on their engagement. His research was a single case study approach. He collected the data used attitude survey, student interviews, document collection, a researcher reflective journal and research observation. The finding of his research showed that some students were encouraged to use the e-portfolio as a learning and employability tool and most students ultimately chose to disengage after completing the assessment task. It could be seen through the result of survey that only six of the forty-five student (13%) who completed the research survey has used the ePortfolio in a sustained manner.

The fourth research was held by Graham Attwell with the title “Recognizing Learning: Educational and pedagogic issues in e-Portfolios”. This paper is based on developing and implementing e-Portfolios in three different Europeans project and the aims of this research are to find out the issues through different possible pedagogic and learning function used e-Portfolio which expected to support and the way an e-Portfolio system could be designed to support pedagogic design. He concluded that there were problems occurring in establishing the pedagogic process and meanings behind new educational technology. Virtual learning environment or LMS (Learning Management System) such ePortfolio is complicated to develop shared
understanding and meanings about the application of educational technology in practice.

The fifth research conducted by Elisa G. Burton in High Point University and the title “The Benefits and Challenges of Using Electronic Portfolios in Higher Education”. The aims of this research are to find out benefits and challenges in suing portfolio in higher education. By conducting this research, the researcher used documentation review to collect the data. She concluded that e portfolios were used in different ways by different school and universities. Several universities have work together to develop source software solution since the challenges revealed in education.

After the researcher presented some previous studies related to the subject of this study. There were five previous studies that were done by some researchers. Those researches give significant contribution to strengthen this research and interested the researcher to conduct this study. The first research was conducted by Linda Ehley on her doctoral dissertation with the title “Digital Portfolios: A Study of Undergraduate Student and Faculty Use and Perceptions of Alverno College’s Diagnostic Digital Portfolio”. The result of her research was that that undergraduate students and faculty were logging onto the DDP and they perceived the DDP as an easy to use, useful tool ; a tool student would like to use more often and more consistently. Second study was held by Kristen Steele from Wasighton University School of Medicine. Her
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Higher Education”. The result of the study was that e-Portfolios were used in different ways by different school and universities. Several universities have work together to develop source software solution since the challenges revealed in education.

The researcher has explained about several studies related to this study. This research aims to know advantages and disadvantages, students to know students’ difficulties and to explain the students’ solution to solve their difficulties using blog for digital portfolio assignments in CALL 2 course.