Storytelling Knowledge Transfer method as an Effective way of Teaching in UTP

By

Malini a/p Chat

Dissertation submitted in partial fulfillment of
The requirements for the

Bachelor of Technology (Hons)
(Business Information System)

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CERTIFICATION OF APPROVAL

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Approved:
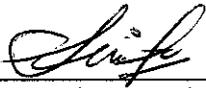
_____
Ms. Savita Sugathan
Project Supervisor

UNIVERSITI TEKNOLOGI PETRONAS
TRONOH, PERAK

January 2009

CERTIFICATION OF ORIGINALITY

This is to certify that I am responsible for the work submitted in this project, that the

original work is my own except as specified in the references and acknowledgements,

and that the original work contained herein have not been undertaken or done by

unspecified sources or persons.

_____
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Thank you to all the lecturers and students from various departments who had helped me in the survey of my project and the testing of my Story Sharing website.

Thank You.

Sincerely,
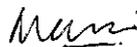
(MALINI A/P CHAT)

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CHAPTER 1

1. Abstract

Through observations, readings (Journals, Articles and Blogs) the author found out that most of the higher education (Universities and colleges) in Malaysia are using power point slides as the lecturing visual aid. It cannot be denied that it is one of the important and useful aids that the lecturers or the speakers can use to attract and build an understanding of the subject domain that can be transferred to the audience. The author belief that it will be more valuable and useful if it is being used together with some other Knowledge Management tool such as storytelling method (also known as Reflective Learning, Narrative or Pedagogy Technique).

Throughout this report, the author will explain the concept of storytelling and how it can be used in higher education. In the background section, explanations on what is actually storytelling is all about and how it's going to boost the knowledge transfer process. Moreover, there will be a discussion on the type of storytelling method and the stages of telling stories n order to make it more interesting. The problems that trigger the author to come out with this research is because of the current issue that is being faced by students nowadays which is the difficulty of recalling and reflecting the theories into real life situation. They also having a problem in limiting themselves to the power point slides provided by the lecturers during the lecture without trying to think out of the box. The objective of this project is To study whether storytelling method can be used to improve student's performance in higher education, To compare 2 methods which is power point slides teaching session (without related stories or examples) and power point presentation slides + Storytelling method (real life example, related video or analogies), To create an awareness of storytelling method by creating UTP Story Sharing website.

Next, the author also will explain on how the research will be conducted throughout the 2 semesters in order to prove the objectives of the research. The specific domain of research area to be within the Management and Humanities Department and Fundamental and Applies Sciences Department of UTP since the author needs to focus on one area due to the

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limitations of time. There are few articles or research papers that the author has referred to in order to come out with this report and all the contents will be discussed in detail in the next few sub topics of this report.

2. Background

Storytelling is the human action whether verbally or visually that conveys feelings and experiences to the listeners. Everyone in this world will have their own stories that they can share with other people and the people who listen to it will tend to remember the information contains in the story better because it is unique. "Storytelling is an art of recreating literature-taking the printed words in a book and giving them life. (World Book Encyclopedia, 1976)"

This is why storytelling is being considered as an effective teaching aid that can be used together with power point slides for both kids and adults since it can help them to remember better especially for the higher education students who needs to remember huge number of information in order to sit for their final examination. By relating the experiences or the stories with the education theories, the learning curve will be more interesting and unique which lead the students to remember the content more than just reading it from the text book or power point slide. Why it is said to be more interesting is because it has the ability to attract the student's attention from falling asleep or doing some other activities in class during the class time.

There are few types of storytelling method that can be used by the storytellers and few of the examples including Digital Storytelling, Video Storytelling, Documented Storytelling, and Face to Face Storytelling. Storytelling will have its own plot in order to make the stories more interesting and unique. The process of telling stories including Beginning, Rising, Climax and Resolution. This plot must be directly related to the stories that are being used for the theories explanation in class. The storytelling method that the author will be focusing on throughout this research is the face to face storytelling method.

Storytelling happens in many situations, from kitchen-table conversation to religious ritual, from telling in the course of other work to performances for thousands of paying listeners.

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Some storytelling situations demand informality; others are highly formal. Some demand certain themes, attitudes, and artistic approaches. As noted above, the expectations about listener interaction and the nature of the story itself vary widely. There are many cultures on earth, each with rich traditions, customs and opportunities for storytelling. All these forms of storytelling are valuable. All are equal citizens in the diverse world of storytelling.

With the given advantages above, the author believes that storytelling can create a great impact in boosting the knowledge transfer process since it can attract the student or the listeners in the higher education to pay more attention and memorizing the storyline that is being told in the class which indirectly will help them to understand and memorize he knowledge that are being transferred from their lecturers.

The author has came out with 2 sets of questionnaires and it has been distributed to the lecturers and students from various field in UTP including the Electrical and Electronics Engineering, Chemical Engineering, Civil Engineering, Mechanical Engineering, petroleum Engineering and Information Communication Technology and Business Information System faculties. The purpose of the questionnaires is to know the level of knowledge and usage of UTP society on the Storytelling methods in UTP. From the questionnaires results, the author found out that the storytelling method is actually being used by some of the lecturers and it is preferable to many students.

Because of the analyzes results that the author extracted from the questionnaires result, the author is interested to do more research on this area and try to prove that it is one of the methods that can be widely used as the visual aid in classroom to support the existing method which is Power Point Presentation. So, by coming out with this research and finding, the author hopes that UTP society will appreciate the contributions that storytelling can provide in the learning and teaching process in UTP.

3. Problem statement

Currently in UTP, power point presentation slides are the most popular way of teaching among the lecturers in the higher education. This method is a good method to be used as visual aid during the knowledge transfer process from the lecturer to the students but bear in mind that not all students will pay full attention if there are slides that they can refer too even though they are not following the presentation presented by the lecturers. Students also tend to limit themselves to the notes provided by the lecturers through the power point slides. By referring to the slides, student will tend to limit themselves from visualizing or imagining the information in the real life situation. This fact is being gathered through observation and random verbal questionnaires to the 20 students from various faculties, year of study and also gender. Storytelling can support the problem mentioned by allowing the students to expand their ability to imagine and visualize the statements that is being said by the lecturer.

Moreover, from the questionnaires result that the author has distributed to the lecturers and students from various fields in UTP, there are limitations to the power point presentation slides. Few of the examples of the limitations are need to have a proper laser pointer in order to highlight on the point that the lecturer wants to focus on, the lengthy explanation is not suitable to be fitted on the power point slides because it might be too long, students unlikely to jot down the notes since it has listed down on the slides, less student's participations and limited space for examples. If storytelling comes in, the usage of laser pointer and the use of lengthy explanation can be minimized since the story or the example (tacit) knowledge resides in the storyteller's memory. The storyteller can just externalize it even without using any power point slides.

The students also had provided some views on the usage of power point slides alone in the teaching process; they claimed that the presentation will be too plain and boring if they attend to the classes just to read the notes from the slides. So, storytelling method can be used to enhance the knowledge transfer process together with the power point slides in order to guide the students on the subject domain and also to retain student's attention in class. The students also says that, there should be more tools used by the lecturers in order to make the

class livelier and interesting and the excitement will make the students excited to come to the class again in the following session.

4. Purpose and Objectives

4.1 To study whether storytelling can be used as alternative way of teaching to improve student's performance in UTP.

4.2 To conduct compare 2 methods which is power point presentation session (without related examples) and power point presentation + storytelling method (real application examples, related video and analogies)

4.3 To create an awareness among UTP society on storytelling teaching method by creating UTP Story Sharing Website.

5 Scope

During this project, the author is focused on one of the Knowledge Management scope which is Knowledge Transfer within the higher education specifically on the face to face and Web Based or Digital storytelling knowledge transfer method.

The author had chosen to focus within the UTP domain itself because of the time limitations for the Final Year Project which must be completed within a year (2 semesters). The research is narrowed down to the face to face storytelling method in the Management and Humanities Department of UTP specifically in Principle of Economics subject and Fundamental and Applied Sciences Department specifically in Foundation Physics subject.

Management and Humanities department is consisting of the subjects which need more subjective explanation during the knowledge transfer process. For example, in Financial Management subject, the lecturers might have experience in the real industry before, by using the experience that they have, they can explain on how the theories in the subject is relating to the real practices in the industry.

Moreover, after analyzing on the management subject, the author also doing a research on whether storytelling is suitable to be used in technical subject. The subject that is being tested is Foundation Physics. The author is trying to study on the statement that has been stated by the Management lecturer from the previous classroom research where the lecturer had mentioned that storytelling might not be suitable for Foundation students and technical subject which consists of calculations. That is why Foundation Physics is being chosen as the second classroom research.

CHAPTER 2

6 Literature Reviews

Since people began to communicate with each other, storytelling has been a request of both children and adults. Storytelling is a process when a person telling others of something. The story can be of a real event or it can be made up but it must be relevant to the real life. Storytelling is often a part of our everyday conversations. It is one of the earliest forms of folk-art. Storytelling expresses the joy of being alive and being used to ease the hard work and boredom of laborious tasks. Later the storyteller became the community entertainer by combining their stories with poems, music and dance. The storyteller also can be considered as group of historian.

6.1 Video Storytelling

There is another research paper on the Video storytelling written by Beth Snoke Harris in the year of 2006. He focuses on the usefulness of video as a visual aid to support the teachers in order to arrange their learning resources and transfer their knowledge to their students effectively. From the research also, they found out that by using video in class room, the cost of traveling for a learning trip can be saved and the quality of learning can be improved too. [6]

Nowadays, students are more likely to spend their time with the Internet and Television rather than spending their time with the parents, so digital storytelling is one of the ways to let the students learn about something new and has the reflection out of it. According to this paper, students nowadays not only need to be verbally literate but also visually literate, so video storytelling is effective in this sense. Virtual literacy is the ability to appreciate, interpret, evaluate and analyze visual communications of all kind. There are so many advantages of using video as a medium of teaching, for example, the video can be stop, replay and rewind if the students couldn't understand some particular part of the learning and it is also have an audio which can support the visual understanding of the story.

During this research, the researcher also have tried to compare between the level of understanding when the audio or the sound of the video is being taken out and the student

only can see the movement of the video to the full video with the audio. The result of the test is not provided in the research paper but I belief that a video will be more effective with an audio aid. [6]

6.2 Storytelling and puzzles in Software Engineering course
Another research paper that I think can be a useful reference for me is the research paper wrote by Krishnan Rao from King Fahd University of Petroleum and Minerals with the title of Storytelling and puzzles in Software Engineering course. In this research paper, the author mentioned that "From time immemorial storytelling has been used as a powerful educational tool to exchange and propagate complex ideas. A narrative or story in its broadest sense is anything told or recounted and by using interesting stories, it makes us want to know what will happen next, the excitement will attract the students to focus and concentrate during the knowledge transfer process". [10]

In this research, the writer has identified 3 ways of using storytelling in technical subjects such as computer science subject which are as listed below:
a) Providing historical/biographical context to a subject.
b) Illustrating a concept by a story.
c) Embedding educational materials into a story. [10]

6.3 Storytelling from Nonaka model point of views

Nonaka has come out with tacit knowledge and explicit knowledge term as the two main types of human knowledge that can be externalized and internalized by human. The key to knowledge creation lies in the way it is mobilized and converted through technology. Tacit to tacit communication is called socialization. This situation takes place when the meetings discussions are between 2 parties. Tacit to explicit communication is called Externalization. It is the verbalization among people through dialog for example a brainstorming session. Explicit to explicit communication also as known as Communication is the transformation phase that can be best supported by technology. Explicit knowledge can be easily captured

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and then distributed or transmitted to worldwide audience. Explicit to tacit communication, Internalization implies taking explicit knowledge, the codified documentations and generating new ideas or taking constructive action from those documented documents. [12]

Storytelling is a method transferring tacit knowledge from one individual to another. This research paper is concentrating on the framework and structure of the storytelling process which consist of 4 phases including intention, creation, narration and reception. The author developed the propositions to investigate differences in using storytelling as a knowledge transfer tool. [9]

Nonaka model plays important roles in storytelling as a knowledge transfer method. Since storytelling involves socialization, communication, internalization and externalization from both the storyteller and the audience who listen to the stories.

Through this research the author distinguishes between the 2 kind of storytelling which is the knowledge disclosure mechanism and storytelling to create meaning and understanding. Storytelling as a mechanism is a helpful tool to retain the valuable tacit knowledge from the expert while the storytelling to create meaning and understanding metaphors to transfer knowledge in more transparent way. [9]

Stories cannot be used to transfer all kind of knowledge but it is a powerful tool in assisting a formal education process. Stories allow the audience to comprehend new experiences and make judgment. Information that is being transferred through a story has a significant impact on the judgment and understanding of the audience. Knowledge transfer through storytelling can help the audience to memorize the information through a cognitive learning and it promotes the transfer of tacit knowledge since it is initiating the creation of shared mental models by clustering within familiar archetypes. It tends to attract more attention than other forms of knowledge transfer methods where the intention is clearly defined. [4]

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6.4.1   Figure 1: Nonaka's Model

SECI Model

Tacit Knowledge	Tacit Knowledge
Socialization	Externalization
Internalization	Combination
Explicit Knowledge	Explicit Knowledge
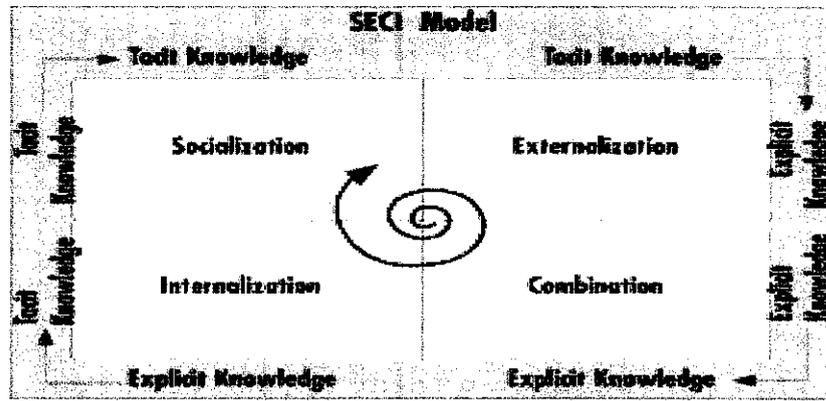
From the figure of SECI model above, storytelling process involve all of the process as stated in the model above. Socialization happen when the storyteller is gathering the experience and stories from different sources such as during their working period, meetings, when they are chatting with their peers or even when they are having a holiday with their family.

Externalization of tacit knowledge occurs when the storyteller is telling or transferring the knowledge or the stories to the audience. When they are telling the stories, they need to externalize their knowledge to the audience and the can do it face to face basis or even transferring it to the codified knowledge form. The audience will then internalizes the stories or the knowledge by listening and understanding or reflects the story if it is in the face to face basis. But id it is in a codified form, they can read it and understand it and it is call a process of internalization.

Sometimes, a combination method need to be used because the storyteller sometimes can be the listener too when the other person is telling their opinions or experience. So when they are telling stories, they are using the externalization but at the same time they can apply internalization when they change their role from a storyteller to listener or the audience.

6.5   Using Storytelling to reflect on IT project

Using storytelling theory supported by experiences from a workshop and interviews with IT practitioners, this paper proposes a workshop design to assist group knowledge sharing at post project reflection meetings. The storytelling approach to reflection constitutes a process whereby tacit knowledge possessed by individual project participants from different IT projects can be externalized and collectively shared and expanded. The suggested design lets the participants both reflect on their own practice through comparison with others and creates a process through which they can learn from other's experiences. [11]

The prerequisites for learning from other peoples' experiences are that a shared knowledge base is established and that development experiences are actively processed through individual and collective reflection, negotiation, and expansion. The researcher suggest storytelling (oral storytelling) as a relevant means for building a shared understanding, for making sense of past actions, and for envisioning the future (Bruner, 1990).

From the statement above, the conclusion can be made that; storytelling can be used as knowledge transfer method not only in the management field but even Information Technology field which are technical in nature. This can be done b adapting the right stories at the right time to the right group of person.

According to Ryan, there are 5 approaches to the study of stories (narratives) which is the existential approach deals with the subject's relation to other subjects and to the world, the cognitive approach describes narrative as an operation of the mind, as a way to create meaning, the aesthetic approach deals with textual phenomena both analysis and the construction of such, the sociological approach analyses the contexts in which narration takes place and the technical approach defines narratives and narrative elements. (Ryan, 2001)

Looking at the statement above, all the approaches are actually being adapted to the different situation where a storytelling can be used. For example, if the intention of the story is as a learning reflection, the cognitive approach can be applied while if the intention is to share the experience with peers or students in order to broaden their knowledge, the sociological approach can be used as it is more informal in nature.

6.6 Storytelling as a knowledge disclosure mechanism

According to Dave Snowden in one of his writing, stated that the use of storytelling as a disclosure creates a largely self sustaining low cost method which captures knowledge on ongoing basis. It is also a powerful tool to create an understanding and helping the receiver to manage the knowledge and indirectly managing the intellectual capital. By telling stories, ones can use the stories tells by the storytellers to manage the knowledge. [15]

By using stories in the knowledge management, the way human understand and manage the knowledge can be changed. They will try to understand the situation first before internalized it as a tacit knowledge and reconstruct it in order to tell others who needs to use the tacit knowledge. So, the knowledge that is being transferred is considered as a valuable knowledge since the storyteller knows that to whom they should give the knowledge to.

This knowledge transfer then will create an understanding to the story receiver who listens to the story. This face to face knowledge transfer is available freely without costing any cost to the organization or the individual since it is being done voluntarily by the storyteller. It just needs to use human capital to understand the needs of telling the knowledge through story and lastly this process will help the ongoing knowledge capturing process within the organization.

6.7 The use of narrative to understand and respond to complexity: A comparative analysis of the Cynefin and Weickian models

It is important to acknowledge failure and learn from instances of it. While this concept has been most extensively developed by Sitkin (1994), it exists both directly and indirectly in Weick and Snowden's work, and it appears in several different forms. In his workshops, Snowden has his participants review past projects to identify a fateful moment when their project might have failed, which enables them to see how close they came to failure and how they might avoid it in the future. Both Snowden and Weick tie failure to learning and seeing things in a new way. [16]

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To relate to the storytelling, it allows the storyteller to tell the failure or success stories to the listener or the audience. This will create an impact on them since they will learn something from the story and try to avoid the same mistake that they got from the story or apply the successful method that they understand from the reflection of the stories in order to solve their current problem when applicable. When they are listening to the stories, they might have a new way of seeing the problems and they might be a more innovative person who thinks out of the box based on the experience that they got from the knowledge that had been transferred through storytelling method.

6.8 Center for Digital storytelling website

6.8.1 Figure 2: Center for Digital Storytelling Website
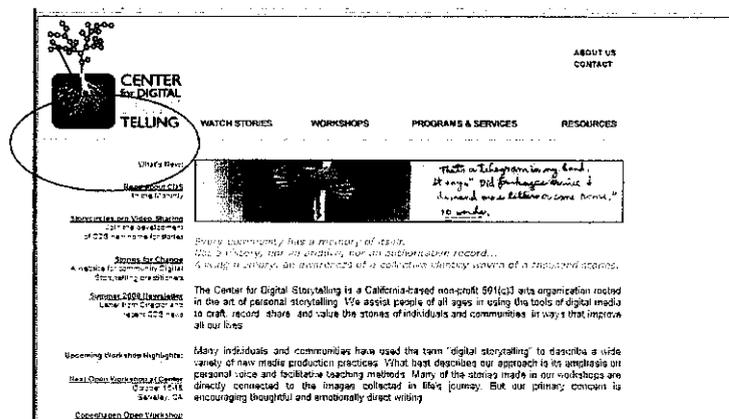
This website is one of a good website for sharing the digital storytelling. It has the latest news on storytelling workshop which can alert the user who is interested in storytelling field on any of the important occasions. The author is interested in this website because it allows the users to watch the video of a story online by clicking at the tab with the red circle in the figure above. [13]

By clicking at the "Watch Stories" tab, the user will be able to watch the available videos on various stories. On the watch stories page, the user can select various video that they would like to watch and this will be easier for the user to choose the right video of their interest by choosing it according to the title displayed. The author feels that this feature is very user friendly and time saving since the users can go straight to the preferred video without

wasting their time to view the video one by one in order to find for the right video of the chosen story. It is also a very user oriented since the user can straight away view the video from the website by clicking on the "Play" button without downloading it first. [13] The feature of the page is as shown in the figure provided below

6.8.2 Figure 3
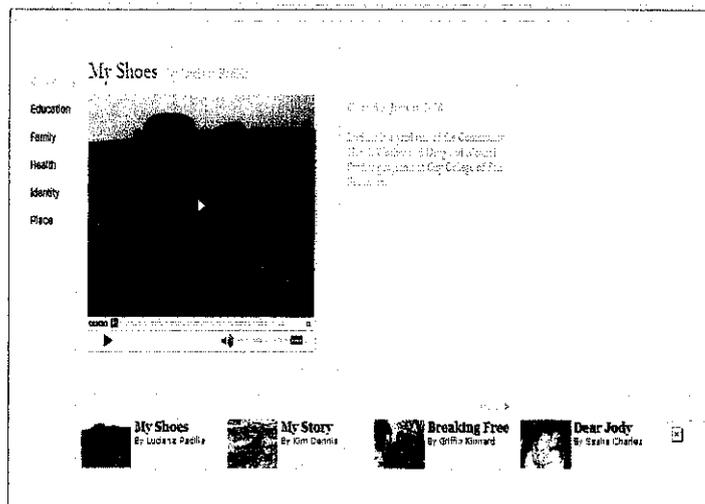
The author would like to incorporate this idea into the website that going to be developed for UTP students and lecturers for sharing their stories on the knowledge that they had learned from the class and they find it interesting to be shared with others within the university too. This feature will be enhance whereby any students or lectures of UTP can upload and delete their videos or any files such as PDF and word document onto the website so that they are not only be able to share the video but also any written document too.

6.8.3 Table 1

Advantages	Disadvantages
User can watch stories in the form of video online.	The links are not highlighted clearly; make it not obvious to users.

The same domain of videos is grouped together which save the time to search for the right video.	The website only allows user to view the videos but not the other codified document such as PDF file or word file.

6.9 Society for Storytelling website

6.9.1 Figure 4: Society for Storytelling website

The screenshot above is one of the storytelling website that the author is interested in term of the design of the interface. The links are arranged in a neat and user friendly way because it is all queuing up on the left hand side. The background color of those links is in a very striking color which can make the users to aware of those links. It is important for a good website to make sure that it users make aware of every main links that it has. It is a waste of source if it is not being realized by the user and it just being ignored even though it is the most valuable link of the website. [14]

So, the author would like to consider this design into the Story Sharing website for UTP society whereby an obvious color will be used as link's background and all the links will be arranged at the left side of the website as shown in the figure above.

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6.9.2 Table 2

Advantages	Disadvantages
The links are arranged neatly at the left side of the website make the website more user friendly.	This website only allows user to get the latest news about storytelling and the documented stories but not the video stories which are also important to the users.
The color of the links is striking enough to make the users realized of its existence.	The website only allows user to view and read the stories but not adding to it. It is just a one way interaction without any interaction with users.

6.10 Digital Storytelling

The National Storytelling Network defines digital storytelling as an ancient art form and a valuable form of human expression and also an ancient form of teaching. Before books, reading and writing became widely spread and available, oral storytelling was the only form the wisdom and knowledge of the people were passed down from elders to children. Nowadays, technology has given us a new twist to this ancient teaching method that is why digital storytelling is a popular way to capture and transfer the stories. Digital storytelling gives us the ability to reach and disseminate further our stories than ever before in history. Storytelling, it doesn't matter in what form or being created in whatever media is a powerful tool to transmit knowledge, culture, perspectives and points of view. [17]

It is through that technology such as the website and portals which is considered as the digital media is one of the ways for everybody to share and transfer their knowledge to others as an alternative way of face to face meeting. As define in the statement in the paragraph before this, we cannot deny that by having a digital storytelling nowadays, the knowledge can be captured somewhere so that the original story won't change over time through the routing retransmission.

After it is being captured, it must be shared with the users with the same interest. It is easier for the stories to be shared when it is being codified as a documentation or even video which is more tangible and can be seen, that means it is not in people's head but it is being externalized. So, by having this digital storytelling, in UTP context, the knowledge that is being captured by the students from the lecturer in the classroom can be codified or stored on

a document and shared by uploading it to the UTP story sharing website which will be developed by the author.

It is also said that Digital Storytelling is the intersection between the age- old art of storytelling and access to powerful technology that is easy to learn and use. Stories have been used throughout history and by all cultures to pass on important knowledge. With the advent of affordable digital video cameras, easy to use software, DVDs, and the Internet we can now tell, capture and disseminate our stories in new ways and to a broader population. [18]

UTP with thousands of people is considered as a big population if a face to face storytelling could be implemented completely to everyone. So, in order for the stories or the knowledge to be disseminated fairly to most of the population in UTP, digital storytelling in the form of website is the most appropriate way to capture and share the stories or the knowledge among them. Since the time consumed or the cost of reaching and disseminating knowledge to a big population is not a small number and this can be avoided by having a medium such as a website for them to connect together.

Through reading, there is one interesting research paper on the Digital Storytelling which is based on the storytelling platform or portal called 'StoriesAbout...'. From this research, the researcher of the project is focusing the study on the Art and Design students. They try to prove that the interactive storytelling through online is an effective way to boost cognitive learning or reflective learning. Through the portal the students will be able to share about their experiences with the other friends and the other students who read the story can actually conclude a reflection based on the story and try to adapt it to the real life if it's applicable.[8] As per research paper on 'StoriesAbout...' portal, the users are able to share their knowledge and experiences in life which is considered as stories to the other users by uploading their knowledge or experiences to the portal and the other users will be able to view and read it for their own reflection.

This paper also proposed that storytelling s not just telling the stories by memorizing the stories and tell others exactly what is it all about, but it needs the process of reflecting the

experience, reconstruct it to a particular perspective and convey it to the audience so that they can understand and they can see the relationship. [1]

So, from here, the author learnt that the process of telling stories is not just by remembering the whole story in order to tell it to others again but they need to understand it and try to modify it to meet the needs of their audience. Different audience might need different type stories even though the storyline might be the same. In order for the stories or the knowledge in the stories is being internalized properly by the audience, the storyteller must be able to adjust the stories according to suitability to the audience.

6.11 A naturalistic approach to Knowledge Management

According to the paper on a naturalistic approach to knowledge management, the writer is trying to explain on the human perspective of the knowledge absorption. The writer concludes the paper with statements as listed below:

o   We only see 1% of our visual range in sharp focus at any one time, If we really concentrate we see between 5% and 10% of the data

o   We make decisions based on searching against patterns in our long term memory that arise from experience & story

o   Negative experience & stories imprint [19]

So, based on the statements listed above, human cannot rely on the reading basis only but listening sense is also important since human being cannot depend on the visual solely but also by hearing in order to capture the knowledge that is being transferred to them. The stories are also important element that help the human being to remember and recall especially when the knowledge contains in the stories are needed in the future. It aids human to make decision because human will try to recall back their past experience when they want to make a decision. So, storytelling is one of the ways to make them remember the points in a longer term and indirectly aids them in the decision making.

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6.12 Storytelling as the Cunning Plots of Leadership

The stories all carried a lesson, and it was usually about morals, morale, or mores. That is a pretty good summary of what one kind of storytelling does brilliantly. Stories of identity convey values, build esprit de corps, create role models, and reveal how things work. Stories play a big role in institutional memory-they are the principal means by which groups remember. Stories are such potential carriers of values and memory, even false memory that variations on the same yarn, like urban myths of the alligators-in-the-sewers variety, sometimes show up in more than one company. [20]

In knowledge management context, when a story is bringing a moral lesson to the group of people who are listen to the story, the story or the knowledge that are being transferred is acting as a best practice that can be used for future cases. This process of re-using the same solution or knowledge in the future similar cases are called as case based reasoning. Lessons learned from the past experience or from the related stories are important and might be useful for the future solution since it can be adapted to fit into the current case.

David Snowden an expert on tacit knowledge at IBM Global Services says that Stories are the way we communicate complex ideas. Each deal is different, yet there are things to learn from past successes and failures, and the deals are so big that even a small improvement in the success rate or time involved could be worth millions of dollars. [20]

From the author's understanding of the statement mentioned in the previous paragraph, storytelling in the form of telling the success and failures from the past experience can avoid the same mistake to be done again by others. This might not be seen as a big deal but a simple knowledge that we transfer to someone might be something important that can act as a turning point for someone else who receive the knowledge.

6.13 Web Based Digital Storytelling

Web based storytelling is the modern way of sharing the stories through digital medium such as internet. Web based storytelling provides the tool for the users to develop their stories electronically and share it with others through the network. It provides for editing and creating digital stories from scratch using a web browser. Digital Storyteller can access to the stories on different data location through the hyperlinks to those stories that are being stored on their original servers. The example of this web based is Flickr and Youtube. [21]

CHAPTER 3

7 Methodology

7.1 Storytelling process Methodology

This research paper is proposing a set of knowledge transfer process through storytelling methods where the diagram as following:

7.1.1 Figure 5: Storytelling methodology
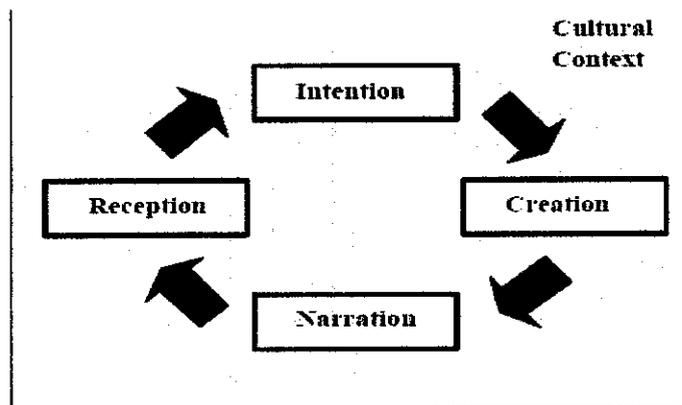
Intention Phase:

Through this phase, intentions of the stories that will be created to transfer the knowledge are being specified. Storytelling might be an intentional transfer of knowledge but this knowledge transfer process could happen implicitly. [9]

Creation phase:

Story creation must be based on who are the audiences and what are their cultures. This is because, the knowledge transfer method that going to be used must be based on the suitability of it to the target audience's cultures, background and purpose of knowing the knowledge. [9]

Narration phase:

The knowledge transferred via a story can be stressed and obvious or hidden in fables or anecdotes. The way the story is told has a major impact on how the audience accepts the knowledge through the story. [9]

Reception Phase:

Knowledge that is being transferred can be accepted or treated differently depending on how the storyteller is conveying the message. So, in order to make sure that the knowledge that is being transferred is received accurately, the storyteller must first understand the story thoroughly. [9]

7.2 Website Development Methodology

Referring to the objective of this project, a story sharing website is developed in order to create the awareness of UTP society on story telling in teaching process. That is why spiral model methodology is being used for this project which can reflects the relationship of tasks with rapid prototyping, increased parallelism, and concurrency in design and builds activities. The spiral method is being planned methodically, with tasks and deliverables identified for each step in the spiral.

Spiral model is having the advantage where its development projects work best when they are both incremental and iterative, where the team is able to start small and benefit from continuous trial and error along the way.

7.2.1   Figure 6: Spiral Methodology
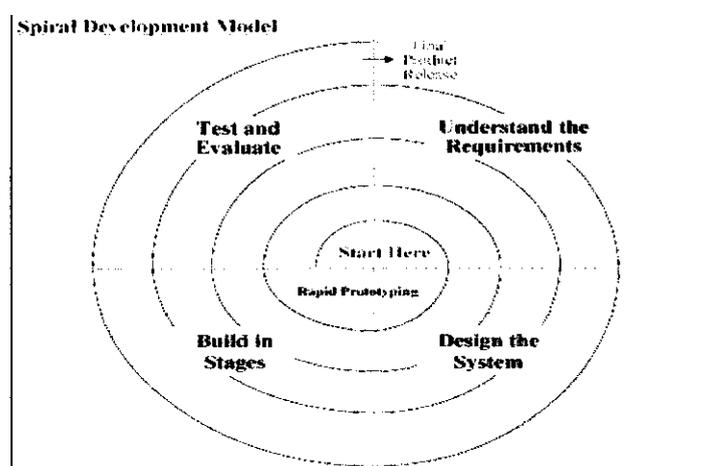
Spiral Model development phases starts with understanding the requirements of the product that the developer is going to develop. During this stage, the author is gathering the

information about the storytelling and researching about its usefulness in the domain of research. Questionnaires on storytelling are being given out to the lecturers and students in UTP to get the rough idea of what the user want on storytelling. Moreover, 2 classroom researches is being planned in order to prove that storytelling is effective to improve student's performance before an awareness of this method can be promoted in UTP. The first classroom research is on Management subject which is Principle of Economic and the second classroom research is on technical subject, Foundation Physics which consist of calculation. Both subjects are under Fundamental and Applied Sciences Department (Foundation Studies).

Then, the next step is to design the system which will be used by the user in the research domain. In this case, a Storyboard/Interface of the website which will be the end product of the research is being developed and the process of modifying the design is still taking place in order to meet the requirements of the users.

After that, build in stage which the process of implementing the system is being done. The design of the system that has been developed before will be developed into a full system before it will be tested and evaluated in the next stage of the system development which is the testing and evaluating phase. Testing and evaluating phase will be the last stage before the real system is being released to the users.

CHAPTER 4

8 Results and Discussions

8.1 Questionnaires/Survey results

2 set of questionnaires are being set for both the UTP lecturers and UTP students in order to get their opinion and experience on storytelling. The example of the questionnaires questions are as attached in the appendices section of this report. The analysis of the questionnaires result is as shown below together with its explanations.

8.1.1 Lecturers

Graphical view of the agreement of the lecturers on the Usage of Power Point Presentation alone in the classroom

8.1.1.1 Figure 7: Agreement of Lecturer on Storytelling
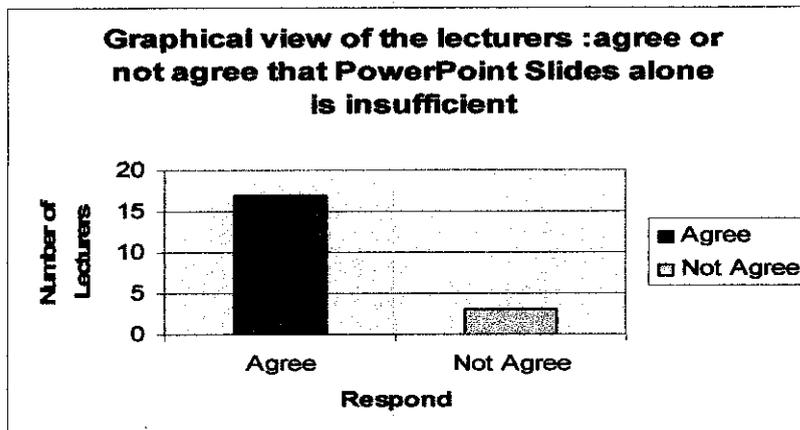
According to the graph above, it shows that about 80% of the lecturers out of 20 lecturers who have been questioned are agreed that it is insufficient if Power Point Presentation slides are the only source or visual aid for the knowledge transfer or the teaching process. Most of the lecturers that are agreeing on this issue are from the Computer Information System and Management and Humanities Department which is consists of mostly Management subjects.

Even though only few lecturers from engineering field that are agreed that it is not enough for the lecturer to only use power point slides as visual aid but this shows that no matter the

subjects are technical or non-technical, power point slides alone will be too plain and insufficient for a better knowledge transfer process from lecturers to students in higher education.

8.1.1.2 Figure 8: Breakdown of the lecturers who are agree according tot the years of experience
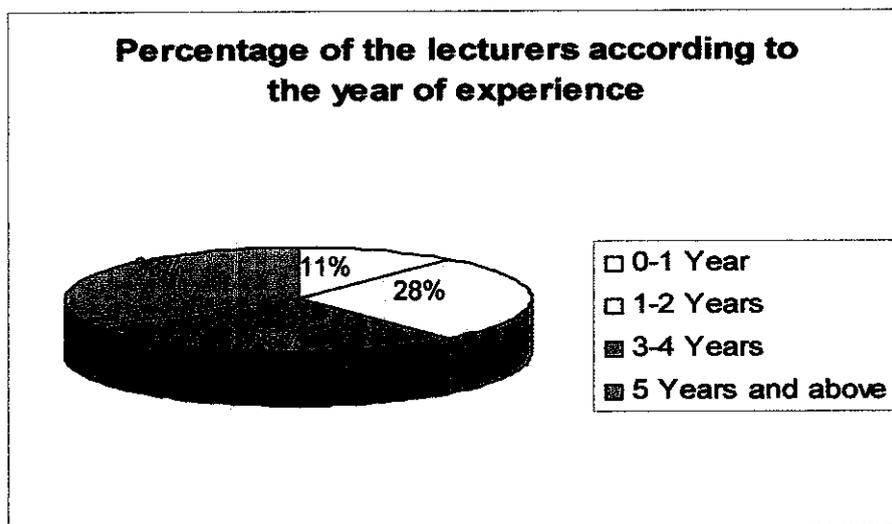
From the first graph, the number of lecturers who agreed that it is insufficient to only use power point slides in classroom, we can break them into few groups according to how long are their experience in the field that they are in. According to the pie chart above, most of the lecturers who are agreed on this statement are the senior lecturers with experience minimum of 5 years. Followed by the lecturers with 1-3 years experience, 28% and lastly 11% of total percentages goes to the lecturer with less than 1 year experience.

From this analysis, the author can conclude that the longer the lecturer are in the specific field, the more experience they have and they tend not to limit themselves to the power point slides.

8.1.1.3 Figure 9: The graphical view of storytelling usage in classroom by the lecturers
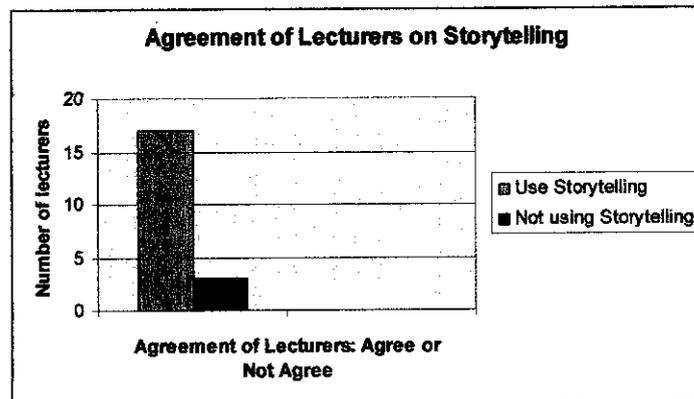
The author also analyses on the number of lecturers that are using storytelling in their classroom whether the stories are related or unrelated to the theories. Some of the lecturers commented that they are using the unrelated stories to the theories in the classroom in order to make the class livelier and not too plain and bored. These stories can be the hilarious or motivation stories that they got from various sources. By telling stories or past experience to the students sometimes can attract them to listen to the lecturers and avoiding them to lose their focus to something else.

According to one of the Professor which is Professor Oxley, from CIS Department, mentioned that "I used to work under a manager who likes to tell stories during the meeting and this is the point which attract the subordinates including me cannot wait to go to the meeting just to listen to his stories." This statement shows that, the students actually will be attracted to go to class if they know that the class will be fun while they are gaining some knowledge too.

8.1.2 Students

8.1.2.1 Figure 10: Students agreement on insufficient od Power Point slides alone

The graphical view of students according to the Year of study that are agreed that PowerPoint Slides alone is insufficient

- 0-1 Year
- 2 Years
- 3 Years
- 4 Years
- Final Year
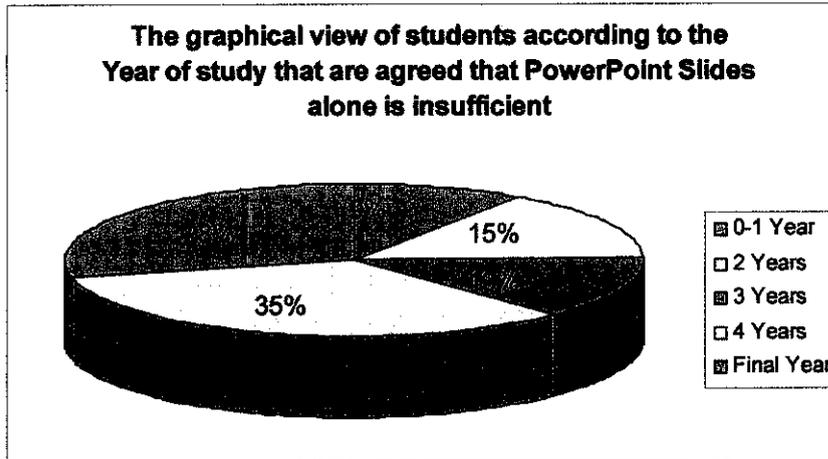
According to the pie chart above, we can see that most of the students who are agreed that it is not sufficient for lecturers to only use power point slides alone in classroom are the students from the 4th year with the highest percentage, 35%, followed by final year with 28%, 2nd year, 15%, 3rd year and 0-1 year with percentage of 13% and 9%. From this analysis I can conclude that the higher the student's year of study, they will be more aware on what they need and what the best way to boost up their learning level.

8.1.2.2 Figure 11: Graphical View of the number of students who Support VS Not Support Storytelling in classroom

Support VS Not Support Storytelling in classroom

Number of Students

- Support
- Not support

Respond
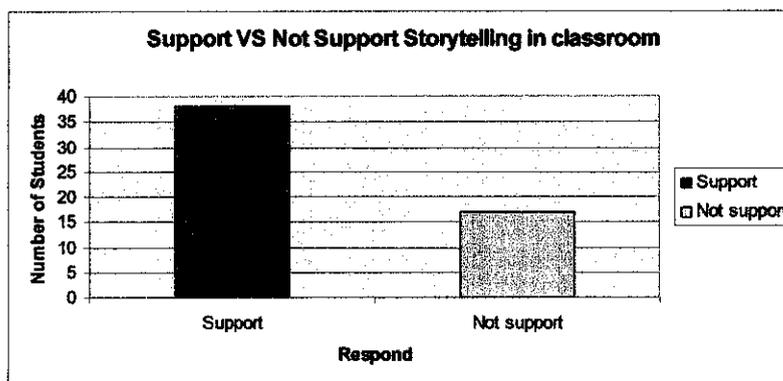
As the result of the questionnaires that the author got back from the students from various field and year of studies in UTP including 1st, 2nd, 3rd, 4th and final year of Mechanical Engineering, Chemical Engineering, Petroleum Engineering, Electrical and Electronics

Engineering, ICT and also BIS, there are more than half of the total number of sampled students that had answered the questionnaires agreed that Storytelling should be used as one of the visual aid in classroom.

Some of the students commented on the questionnaires that they prefer to attend to the classes which is enjoying and not too dull. That means, they prefer to listen to something that can make them alert and enjoy throughout the class, not only attending to the class just to read the points from the slides and listen to the same points that are being read out from the slides again. The students also claimed that they are excited to attend to the class which the lecturer always tell stories and past experience without relying to only examples from the text book which they can read on their own.

8.1.2.3 Figure 12: Graphical view of students according to the year of study: Support or Not support Face to Face Storytelling in class

Graphical view of students that are supporting the Storytelling according to the Year of Study

- 0-1 Year
- 2 Years
- 3 Years
- 4 Years
- Final Year
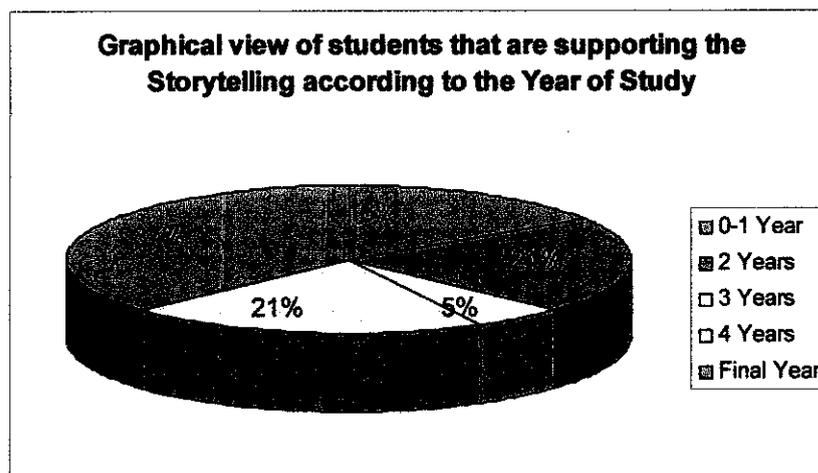
Referring to the pie chart above which is being detailed down from the students who are agreed and prefer to have face to face storytelling in classroom as visual aid and separate them into their own group of year of study. According to the pie chart, the groups of students who are the majority to support the face to face storytelling are from the Final year students, followed by 4th year, 2nd year, 3rd year and 0-1st year.

Moreover, from the majority group of students that are agreed to have storytelling as the alternative way of transferring the knowledge, they are not coming from the same background of studies but they are from the various field including the engineering clusters, technology and also management field. This shows that storytelling is not suitable for the Management subjects but also the technical subjects if it is being adapted properly.

8.2 Classroom Research

8.2.1 Classroom Research on Management Subject

The author had approached Economics lecturer from the Management and Humanities Department to interview the lecturer on why he tend to use the normal way of teaching which is the Power Point Presentation slides without the aid of storytelling in their class. The lecturer also has helped the author to conduct the class by using a face to face storytelling method in order to compare to their normal way of teaching which is by using only power point slides. The purpose of this test is to compare both power point slides with power point slide plus face to face storytelling whether by the aid of face to face storytelling, will the level of understanding and the attractiveness of the class to the students can be boosted?

During the first Part of the author's research which is FYP I, the author is focused on Face to face Storytelling with the aid of Power Point Presentation slides versus the normal way of teaching which is by using the Power Point Presentation slides only. Power Point session alone is a session where the lecturer is only refer to power point slides during the teaching session without using any extra real application examples while Power point + Storytelling method is where the lecturer is using extra examples based on real application, related videos and analogies that describes the power point slides.

Right after the Test is being conducted, the respective lecturer has given out a set of quiz consists of 10 questions on the topic which was presented earlier and the result of the test will be based on how many questions they can answer correctly, this is to test on how much the students can understand and recall the knowledge after they've gone through the lecture session. There are 2 different groups of students in the same subject that is involved in this test. First group has gone through normal power point slides session and the other group is based on the Face to Face Storytelling + Power Point Slides lecturing session. Both test results are being compared and showed in a graphical view which is by using the graph, pie chart and table.

The guidelines for the lecturer who is also the storyteller is as following:

8.2.1.1 Group 1 (Teaching based on Power Point Presentation slides only)

Pre-Test:

- Select 15-20 students (Different set of students from the first session) from the class (Without telling the students that they are being tested).

- Choose a suitable and appropriate topic to be taught to the students for the session.(The topic must be the same as the topic in the first session)

- Prepare presentation slides for the chosen topic.

- Prepare a set of Quiz Questions to be given out to the tested students on the given topic (Same set of questions with the first session).

During the Test:

- Teach the students by referring to the slides as per normal without relating it to any past experience or stories.

- Observe student's attention in class during the session.

Post Test (For both of the sessions):

- Fill in the Evaluations Form given at the end of this document.

- Provide point of views on the test results (Student's performance).

8.2.1.2 Group 2(Teaching based on Power Point Presentation slides + Face to Face storytelling)

Pre-Test:

- Select 15-20 students from the class (Without telling the students that they are being tested).

- Choose a suitable and appropriate topic to be taught to the students for the session.

- Prepare presentation slides for the chosen topic.

- Prepare a set of Quiz Questions to be given out to the tested students on the given topic (suggested to be 10 questions).

During the Test:

- Teach the students by referring to the slides and relates to your past experience or any interesting stories that you know in order to describe the theories consisted in the chosen topic.

- Ask students to provide their views on the story or the past experience and how it is relating to the chosen topic.

- Observe student's attention in class during the session.

8.2.1.3 Classroom Research Evaluation

Lecturer's Name: Mr. Azhan Hassan

Subject: Principle of Economics SBF 0034

Number of students involves: 42 (21 for both first and second test)

8.2.1.3.1 Table 3

Number of correct answer for the Quiz	Number of students (Test1)	Number of students (Test2)
0-1	0	0
2	0	0
3	2	0
4	5	0
5	4	3
6	4	7
7	2	8
8	3	1
9	1	1
10	0	1
Total	**21**	**21**

8.2.1.3.2 Figure 13: Classroom Research Quiz Evaluation Results
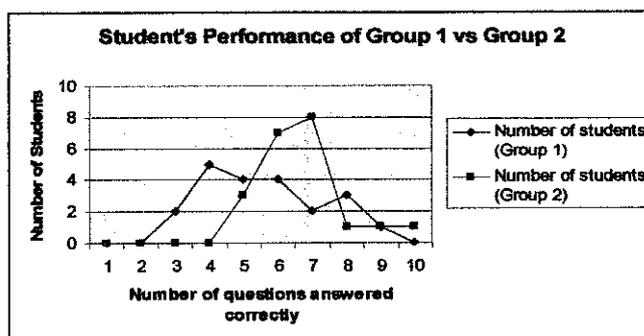
According to the graph, it is clearly shown that Group 2 students who are learning from the power point slides with the aid of storytelling from the lecturer can perform better than Group 1 students who are experiencing the knowledge transfer process through power point slides alone during the session. Group 1 scores minimum of 3/10 mark and the highest marks that they can score is 9/10 questions were answered correctly. Majority of the students in group 1 scores 4/10 questions. While the second group, group 2, they have the minimum scores of 5/10 marks and the highest score of the group is 10/10. Majority of students in group 2 scores 7/10.

The result is as expected by the author since the author is making a hypothesis that the students who experience storytelling + power point slides as a knowledge transfer method in the classroom can perform better than the students who are learning through power point slides alone. Even though the result of the test is actually affected by some factors that are being overlooked by the author such as the nature of the subject, student's existing knowledge on the topic, the year of studies of the students that are being tested and the general knowledge about the topic that the students has during the first attempt of the test but the author has proven the hypothesis after considering all those factors and retested it again with the same subject and students but with different topic.

The subject that the author had chosen for the test which is Principle of economics is the subject that is having lengthy explanations and also analyzing the illustrated graphs. So, storytelling or past experience might be very useful for this kind of subject which involves analyzing graphs and memorizing or understanding the principle.

So, by conducting this test, the first objective which is to conduct a test on whether storytelling can be used as alternative way of knowledge transfer process in higher education has been proven. This is because, storytelling is proven to be helpful in knowledge transfer process as the result is being shown clearly when the students in Group 2 who are experiencing the Power Point Slides + Face to Face Storytelling method during their session can perform better in the quiz given by the lecturer as compared to the Group 1 students who are not experiencing Storytelling but only referring to the power point slides only. Thus, the

second objective is also has been completed whereby the comparison can be seen in the form of quiz evaluation and the graph illustration that is being shown in figure 5 above. The result of the comparison is shown that Power Point presentation + Face to Face Storytelling method is better than the use of only power point slide alone.

8.2.1.4 Overall Classroom Research Evaluation

(1: Very Poor, 2: Poor, 3: Average, 4: Good, 5: Very Good)

8.2.1.4.1 Table 4

Criteria	Test1	Test2
Ability to retain students' attention in class	2	4
Students' performance in answering the quiz questions (Overall performance of each test)	2	4
Students' involvement in class/discussion (Students giving point of view/ask questions regarding the topic, past experience used or the stories used)	2	3
Students' response towards the session (Enjoy or showing interest throughout the session)	1	4
Rate both sessions from your own point of view	2	4

According to the overall test evaluation above, the author found out that the lecturer who involved in this test prefer to use storytelling method in their knowledge transfer because it can retain the students attention in class and throughout the class session better than the normal way of teaching which is by using the power point presentation slides alone. This statement proven that the third objective of the research has been fulfilled whereby, student's attention in class is increased when storytelling comes in. The students involvement in class is also affected by the methods that the lecturer is using based on the evaluation given by the lecturer as stated above but the students is enjoying the session which includes the storytelling methods more than the normal session without any entertainment at all throughout the learning process.

8.2.1.5 Suggestions from the lecturer involved in the Classroom Research

o   Storytelling might be suitable for the higher level of studies for example the undergraduate students from 3rd year or final year, Masters Degree or the PhD students. This is because; their level of thinking is more suitable for storytelling methods which need a high level of adaptation of current theory the past experience or any related stories.

o   Storytelling might not be suitable for some of the management subjects which consist of calculations and graph illustration. Power point slides are better described the graphs illustration and the calculation because it is a concrete data that need to be seen by the students in order to understand and memorize it.

8.2.2 Classroom Research on Technical Subject

Department: Fundamental and Applied Sciences
Lecturer: Dr. Balbir Singh
Subject: Foundation Physics
Number of Students: 30

Another classroom research on effectiveness of storytelling has been conducted and the details of the test are as shown above. This classroom research is to study on the effectiveness of storytelling for technical subjects since the previous test is only focusing on Management subject which is Principle of Economics.

From the observation in the classroom, the lecturer minimizes the used of Power point slides but pay more attention on explanation through experience and overhead projector in order to explain visually and verbally to the students. Moreover, the students are focused throughout the session and jotted down all the points and diagram that the lecturer projected out through the Overhead Projector since the lecturer is minimizes the Power Point Slides usage.

The lecturer also uses the analogies/past experiences in the form of stories in order to describe the theories and formulas during the lecturing session. He mentioned that the analogies/stories that are being used are related to daily activities and some of it is in the form of jokes that can bring the sense of humor but still related to the theories that wants to be conveyed to the students. This is because, daily activities and jokes are easier to be remembered by the students and this is how it helps students to remember the theories behind it too. The analogies and stories that are being used by the lecturer are not only helping the students to remember the theories but also it makes the class livelier. The students are enjoying themselves while gaining the knowledge from the session and this is the reason why the class is having a positive attendance trends throughout the semester.

8.2.2.1 One to One Interview Session with the Students in Foundation Physics Class

15 students had been interviewed one by one after the research and observation in classroom session had ended. The students that are being interviewed are of both genders with 18-20 age range. They had been asked with the same set of interview questions as shown in the appendix 6.

The objective of the interview session is to know whether the Foundation Physics lecturer is using the analogies/stories in order to explain on the theories or to just make the class livelier and attractive. The other objective is to know what they think about storytelling or the usage of analogies in classroom, how it will helps them to memorize the theories and the reason why they are they preferring or not preferring the usage of storytelling or analogies in classroom.

Based on the interview session, all of the students that are being interviewed are agreed that there is storytelling or analogies usage in Foundation Physics class by the lecturer in order to explain the theories and to help the students to remember some of the formula. They prefer lecturing session with storytelling or analogies because it is more interesting and it can attracts them to love what they are learning. This statement similar to the comments made by the lecturers and students who involved in the survey regarding effectiveness of storytelling in classroom and also proven the third objective of this overall research.

Even though the students prefer sessions with storytelling/analogies in order to describe the theories but 4/15 students said that stories and analogies are helping them in memorizing the points but the stories should not be too long, if not it will make them confused on how it relates to the theories and also it will make them bored too.

The reasons why the students prefer the usage of storytelling/analogies in theories explanation are as shown in the graph below:

8.2.2.2 One to One Interview Session with the Lecturer of Foundation Physics subject

An interview session had been conducted to know on the point of views of the lecturer that is using storytelling/analogies to describe the theories and formulas in technical subject. According to the lecturer that had been interviewed, stories/analogies/past experience can be used in technical subject that consists of formulas and calculation by applying it to the formulas or theories in calculation itself. The stories or analogies are being used as a way to aid the students to remember the formulas by remembering the storyline or the analogies that are being told.

8.2.2.2.1: Figure 14: Classroom research 2 Interview Session with Students
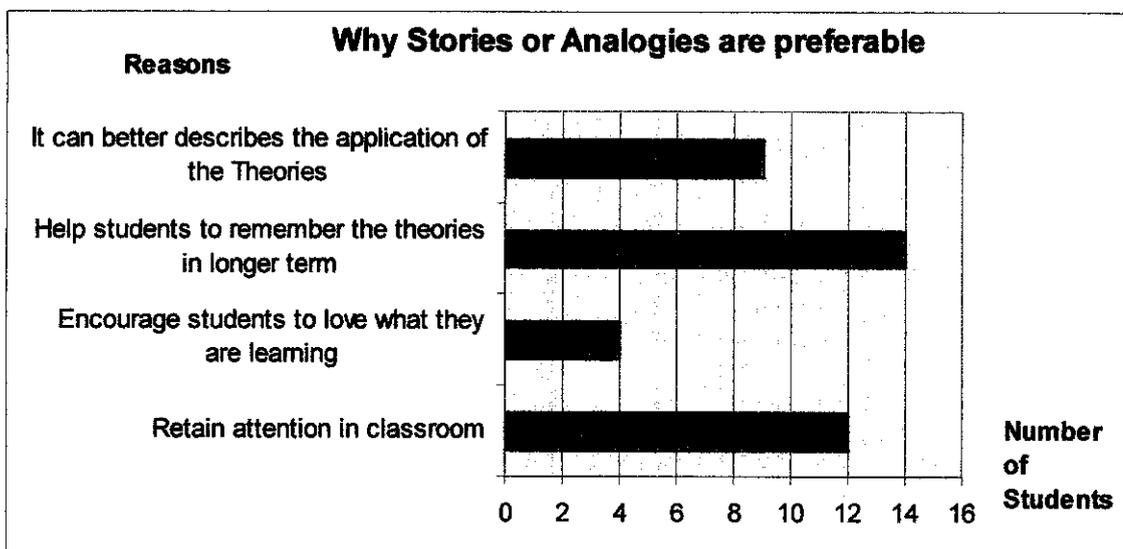
The effectiveness of the storytelling and analogy description is shown through the test 1 results performed by the students. The results of the Foundation Physics students whom experiencing storytelling/analogy style of teaching by the lecturer are positive. None of them are fails and 70% out of 30 students are performing very well (8% / 10% marks). This shows that storytelling/analogy style used by the lecturer is effective and had helped the students to

understand and memorizes the theories in a longer term as said by the students during their interview session with the author.

According to the lecturer, even though storytelling might be effective to boost the level of understanding and memorizing period, it is very much depending on how well the lecturer can apply their stories to the theories so that the students can understand too. Some of the lecturers who are using the wrong stories or analogy that is not suitable for the topic that they are teaching might create confusion among the students and brings negative effect to the knowledge transfer process.

Storytelling and analogies is being used mostly when students do not understand or confused on the theories that are currently being taught. It will simplify the theories into a simpler form that can be understood by the students. The effectiveness of the storytelling or analogies are depending on the experience of the lecturer in a particular field too, the more and wider the experience, the better they can know where (which topic) stories or analogies should be placed. It is also can act as a tool of reflection for lecturers to improve their teaching process.

There are reasons for the lecturers not to share their real life experience or related stories in their sessions as the reasons are as shown below:

- Lack of time in each of the session and to finish up the syllabus
- Lack of experience in the field
- Cannot prepare/plan the stories on the spot
- Inability to relate theories to the practical situation

8.3 Adaptation and Application of Storytelling in UTP
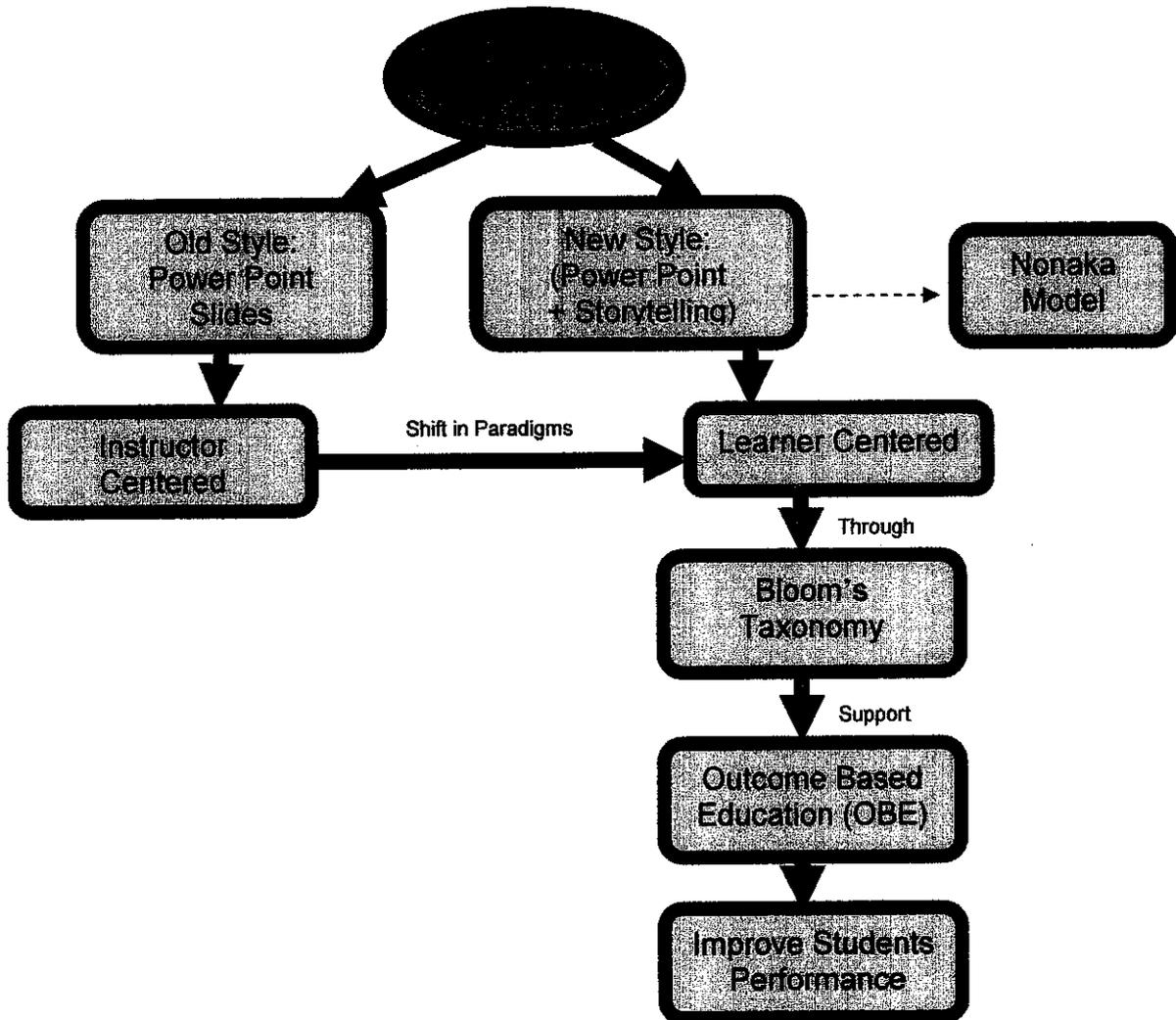
Currently in UTP the old learning style is still being widely used. The old style which is depending only to the power point slides which is being shared with the students through E-Learning is actually an instructor centered style of Knowledge Transfer method. In order to adapt to the new style of teaching which is moving towards the learner centered, UTP needs to encourage the usage of storytelling to describe the theories on the slides.

Storytelling knowledge transfer method should be emphasized by the lecturers and this can be done through the Education and Technology Development Unit (ETDU) where the processes of sharing and training for the lecturers are being planned. The ETDU can plan or encourage the lecturers to share their best practices on the knowledge transfer method with

the other lecturers. By using this existing channel to promote the storytelling or analogies knowledge transfer method, hopefully the lecturers and students can see the importance of it to boost the effectiveness of knowledge transfer process as shown in a positive result of the classroom researches done by the author.

Nowadays, in UTP, the Outcome Based Education (OBE) is being used widely in order to improve the Teaching and Learning process which involves the Knowledge Transfer process. OBE relates outcomes to objectives. That is why Bloom's Taxonomy is being used as a tool to evaluate the effectiveness of the Teaching and knowledge transfer process whether the results/outcomes are aligned with the objective that have been set.

In order to align with the OBE, the Bloom's Taxanomy is used as a guideline in the teaching and Knowledge transfer process in the classroom. The usage of Stories or analogies as mentioned earlier are encouraging the knowledge usage flow as shown in Bloom's Taxanomy which consist of knowledge, understanding, application, analysis, synthesis and evaluation phase.

8.3.1 Figure 15: Bloom's Taxonomy
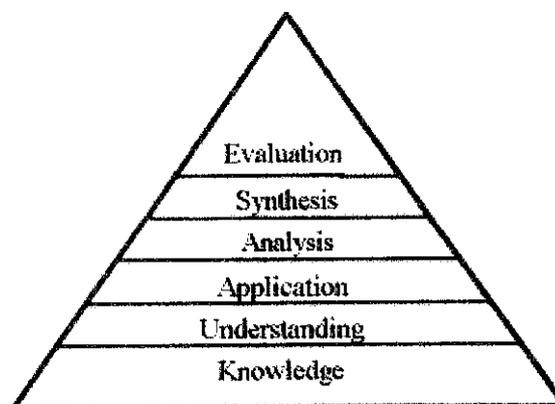
- **Knowledge:** arrange, define, recognize, relate, recall, and repeat state.
- **Understanding:** classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, and review.

- **Application:** apply, choose, demonstrate, illustrate, interpret, operate, practice, solve, and use.

- **Analysis:** analyze, appraise, calculate, categorize, compare, contrast, criticize, differentiate, and test.

- **Synthesis:** arrange, assemble, collect, compose, manage, organize, plan, prepare, propose, set up, and write.

- **Evaluation:** appraise, argue, assess, attach, choose compare, defend estimate, judge, predict, rate, core, select, support, value, evaluate. [22]

Knowledge transfer process through storytelling/analogies starts with knowledge phase, whereby a suitable knowledge that wants to be transferred is being chosen recognized. Firstly, the lecturer is recognizing on the knowledge that wants to be transferred to the students. The students then needs to try to recognize and understand the knowledge that are being transferred from the lecturer through the visual and verbal representation such as power point slides, Overhead projector, storytelling/analogies and etc. The process of recognizing and understanding the knowledge is the second phase of Bloom's Taxonomy which is called Understanding phase. It is impossible for students to understand all the theories/knowledge that are being represented on the visual representation such as Power Point slides and Overhead Projector without any verbal representation such as telling the past experience or using analogies/stories that are related to those theories.

By having the related analogies/stories the students can be equipped and guided with the skills to apply those theories into the real life application as mentioned in the 3rd phase of Bloom's Taxanomy. As an example, the lecturer is using analogy to explain about the formula so that it will be easier for the students to memorize the formula by just memorizing the analogy/storyline that has been told. The students then can apply the formula which can be extracted from the analogy/storyline that they had remembered from classroom and apply it in the real Test, Assignments or even in Final Exam.

The lecturer will use the Test, Assignment and Exam as the analysis data in order to check for the effectiveness of their teaching and knowledge transfer process. From the analysis of the test, assignment and exam result, they will be able to synthesize, prepare or plan for the

45

improvement of their Teaching and Knowledge Transfer method so that the student's performance can be improved. After preparing and implementing the new plan for the teaching and knowledge transfer process, the last phase of Bloom's Taxonomy, evaluation phase comes in order to compare the effectiveness of previous teaching/knowledge transfer process with the current teaching/knowledge transfer process.

The whole process in the Bloom's Taxonomy is guiding the OBE and thus improving the knowledge transfer process from the lecturer to the students. Because the lecturer is using the Bloom's Taxonomy to guide the classroom towards OBE approach, the students of the class are performing well in their test 1 as mentioned earlier. Again, the effectiveness of the approach might be depending on the lecturer's year of experience in the field and their ability to apply those steps and phases in their daily teaching/knowledge transfer process. Moreover, student's acceptance towards the approach is important to make sure that the approaches are producing the expected results.

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8.4 Storyboard of UTP Storytelling Website

When stories and experiences are being shared or externalized by the storyteller to the audience for this context, through face to face, the knowledge that the audience received will be stored in their brain which is considered as a tacit knowledge which cannot be seen by others. So, in order to make sure that the tacit knowledge is being shared with others who are interested to know about it, it must be captured and stored somewhere.

In order to make sure that the tacit knowledge can be shared and disseminate fairly to others, the author is proposing a website called UTP Story Sharing Website. The following table is the comparison of the proposed website with the other existing storytelling websites available commercially.

8.4.1 Comparison between UTP storytelling Website and Other Existing Storytelling

Websites:

Other Websites:
o http://www.storycenter.org/index1.html
o http://www.sfs.org.uk/
o Leslie Rule, http://www.inms.umn.edu/elements/

8.4.1 Table 5

Criteria	UTP Story Sharing Website	Other Existing Storytelling Websites
Ability to view video online	Yes	Some yes and some No
Ability to upload Stories by the user	Yes	No
Ability to let the user rate the stories that they like	Yes	No
Ability to allow user to comment on the stories	Yes	No

8.4.2   Proposed Interface/Storyboard of UTP Storytelling Website

8.4.2.1 Figure 16: Main Page

The main page of the website is consisting of the link to the main menu of the website as shown in figure 14 above.

8.4.2.2 Figure 17: When click on the "Enter Here link" on figure 16
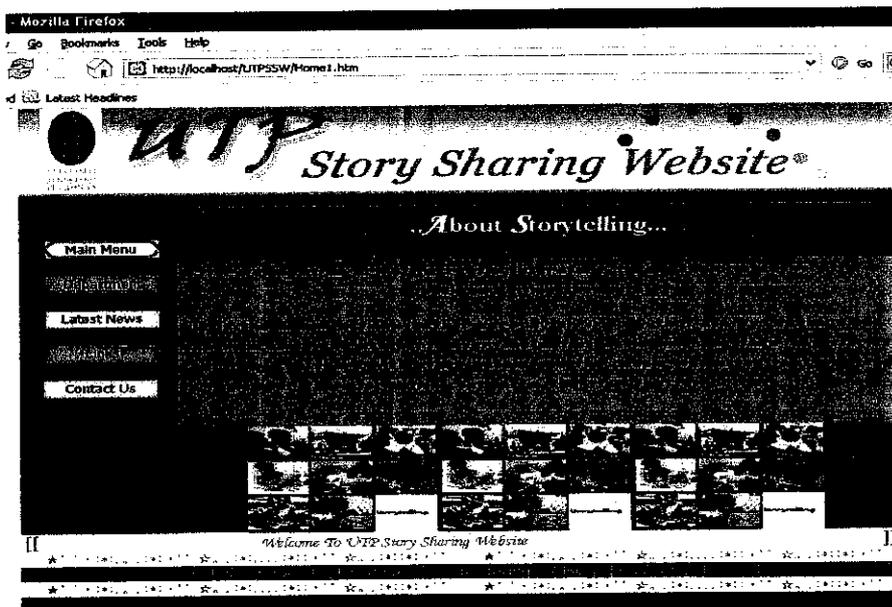
When the user is clicking on the Enter link as shown in figure 13, the page as shown above in figure 14 will appear. From this page, the user can choose whether they want to go to the

specific department by clicking on the Department link on the top left side of the page, view the latest news on storytelling by clicking on the Latest News on... link located at the top left side of the page, Storytelling page by clicking on the Storytelling link located at the top left side of the page, view other related links by clicking on the Links link located at the top left side of the page or if the user need to contact the administrator, they can view the contact details by clicking on the Contact us link which also located at the top left side of the page.

8.4.2.3 Figure 18: When click on the Department link as shown in figure 17

When the user clicks on the Department link on the main menu as shown in figure 14, a page as shown in figure 15 will appear. On this page, the user can choose a specific faculty that they want to view. For a specific faculty, the user can also choose whether they want to view the latest news on storytelling for that faculty, view the related links to other universities or view the administrator's contact details when they need to consult the administrator about the website.

8.4.2.4 Figure 19: When click on Management and Humanities department in figure 15

From the department page as shown in figure 15, the user will need to choose a specific faculty to be entered to. When they click on the specific faculty link, a page as appeared above on figure 16 will appear. A list of subjects that are under the chosen faculty will be enabled for the user to choose. For each of the subject, the user can view the latest news on storytelling, the related stories and the related links to other websites, universities or colleges.

8.4.2.5 Figure 20: When click on the specific subject of the faculty page in figure 19
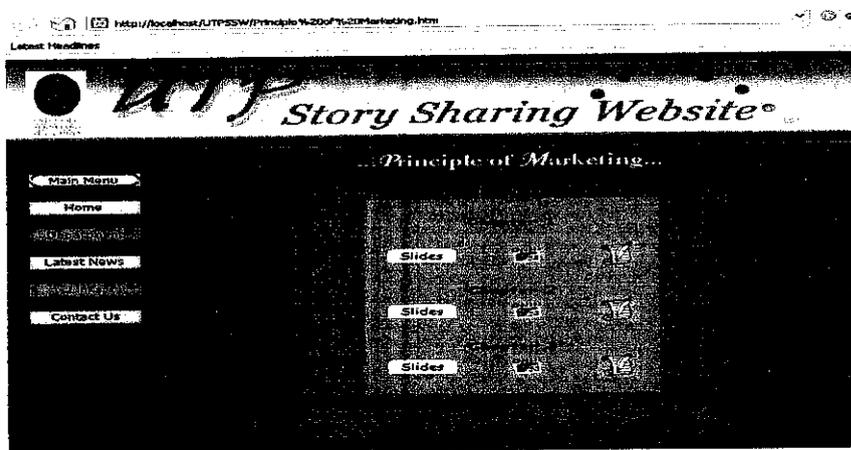
Once the user chooses a specific subject displayed on the chosen faculty page in figure 16, they will see a page as shown in figure 17 above. On the subject page itself, the user will see

a list of topics with its related power point slides, related video and related written stories. If the user clicks on the Power point, video and stories link located under the chapters, pages as displayed in figure 18, 19 and 20 will appear. The related power point slides can be viewed or saved in the user's hard disk. For the related video link, the user will be directed to the location of the video that the administrator had saved and same goes to the written stories whereby the user will be directed to the location of the stories that had been set by the administrator.

8.4.2.6 Figure 21: When click on Video link

8.4.2.7 Figure 22: When click on the Power point Slides
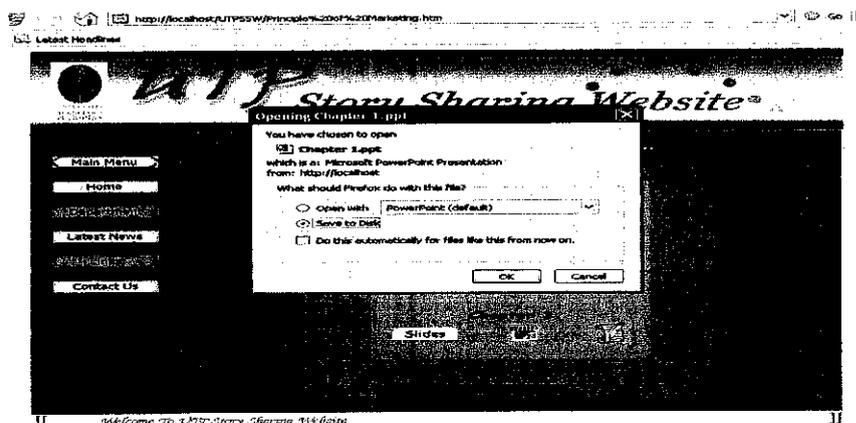
8.4.2.8 Figure 23: When click on view stories link
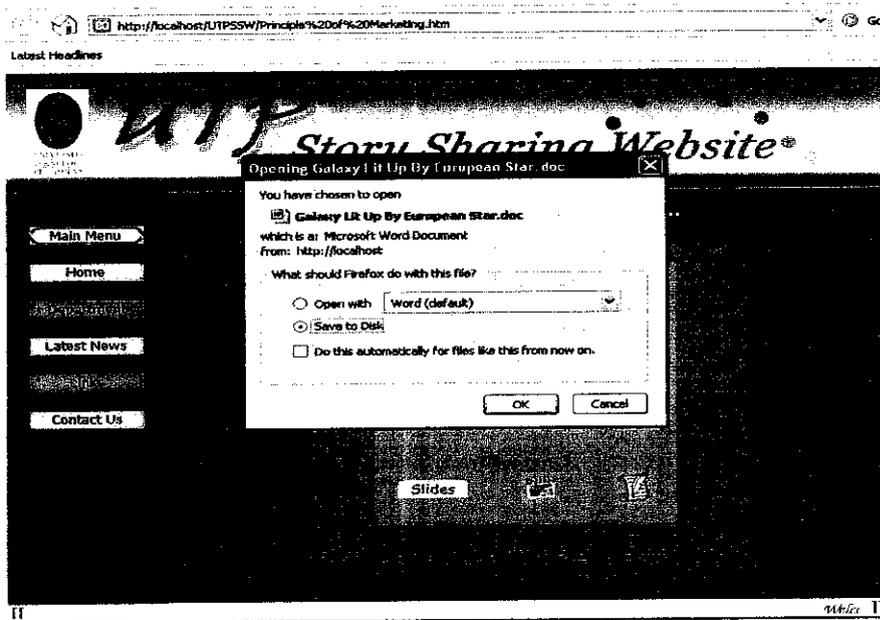
8.8.2.9 Figure 24: Log in page for lecturer or administrator to upload the files
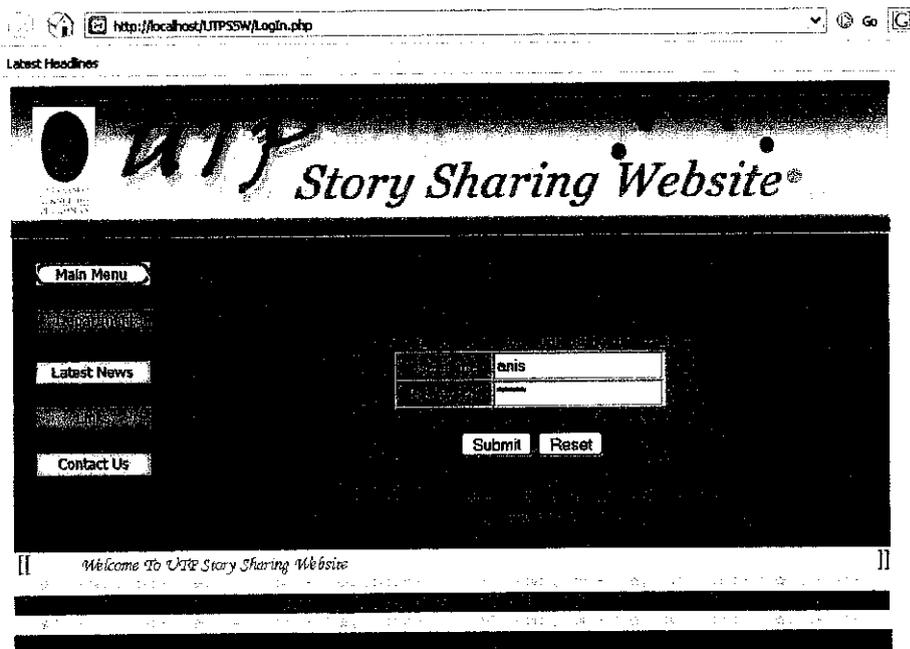
When the administrator/lecturer click on the Upload related Powerpoint slides/story/video located at the center bottom of the subject page as shown in figure 17, a page as shown in figure 21 will appear. The administrator or the lecturer can upload the files to the related

subjects but with one condition, they need to have a proper use name and password provided by the Story Sharing Website Administrator. If the lecturer or the administrator do not have the user name and password, they can request for one by clicking on the "Click here to Request User Name and Password from Administrator" located on the log in page.

8.4.2.9 Figure 25: Successful Login by administrator/Lecturer page
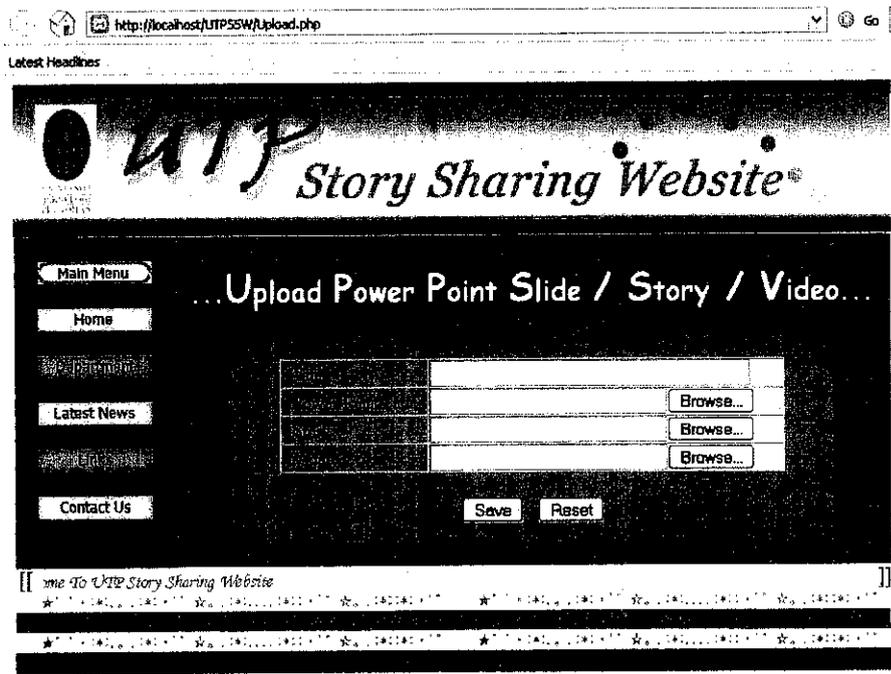
When the administrator or the lecturer had been successfully logged into the upload page from the page as shown in figure 21, a page as shown in figure 22 will appear. On this page, the administrator can upload the related video, written stories and the power point slides by clicking on the browse button to choose the file from its location. When the administrator is clicking on the save button all the files will be save in the database of the website.

8.4.2.10 Figure 26: When click on Latest news link

When the user is clicking on the latest news on storytelling on the page, a page as shown in figure 23 will appear. On this page, there will be 4 categories of news on storytelling which are Forum, Workshop, Training and articles for the users to view.

8.4.2.11 Figure 27: Forum Page
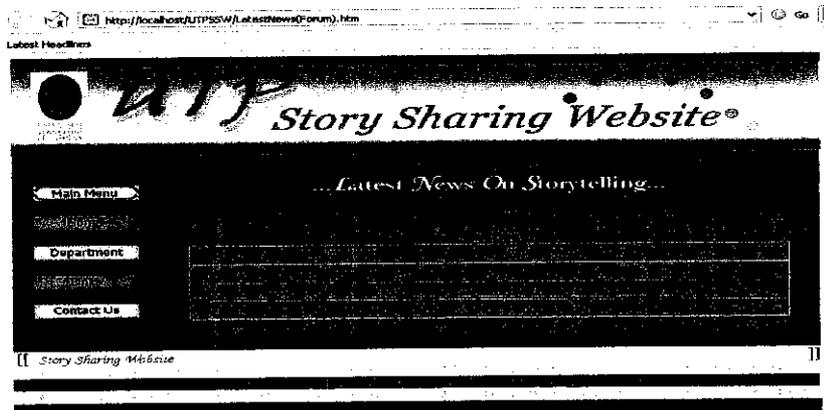
8.4.2.12 Figure 28: Workshop page
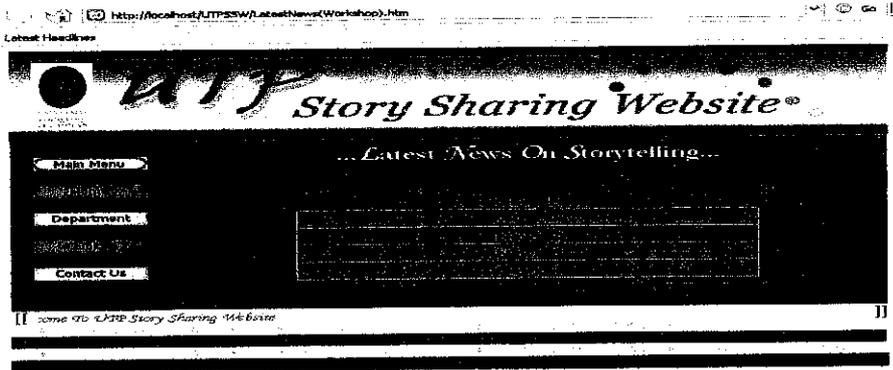
8.4.2.13 Figure 29: Training page
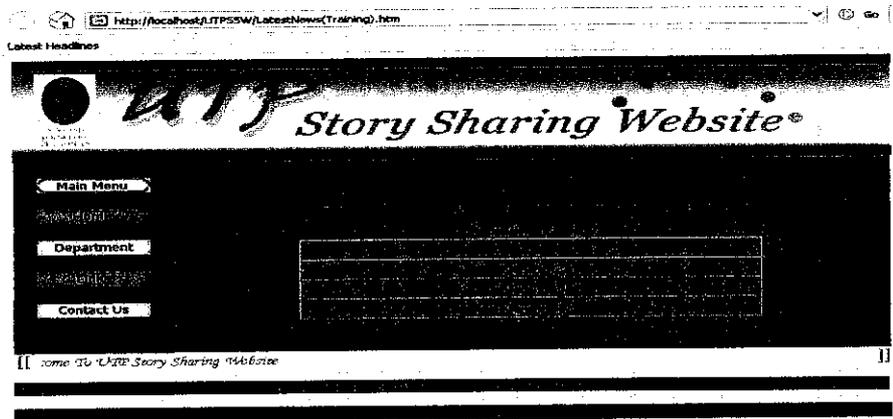
8.4.2.14 Figure 30: Article Page
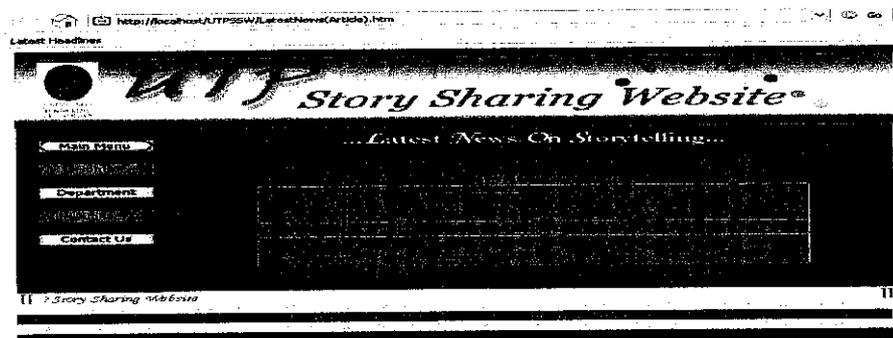
8.4.2.15 Figure 31: When click on the Links link
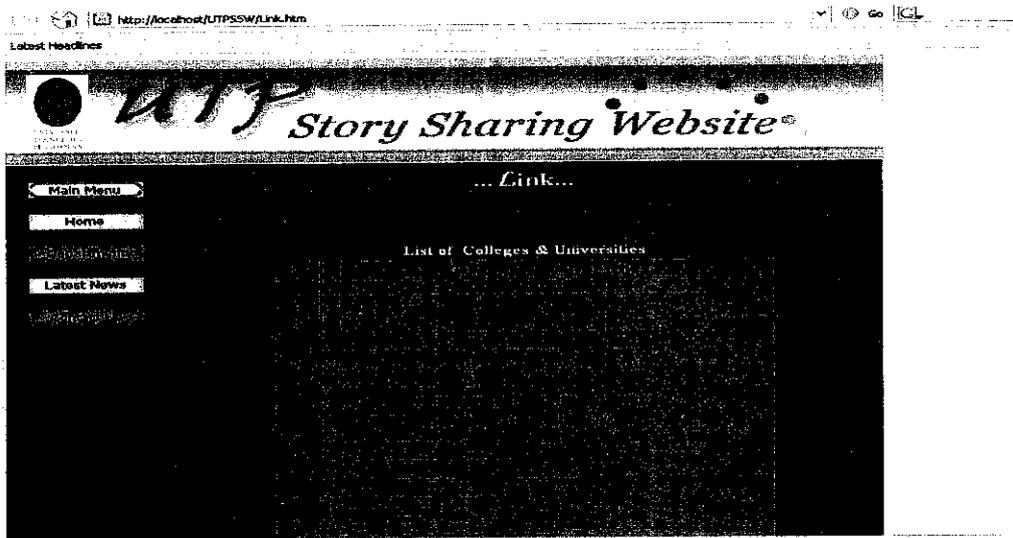
When the user is clicking on the Links link on figure 17, a page as shown in figure 23 will appear. A list of links to other universities and colleges who are also interested in storytelling matter will be shown. The user can click on any of the links to be directed to the specific universities or colleges.

8.4.2.16 Figure 32: When click on the contact us link
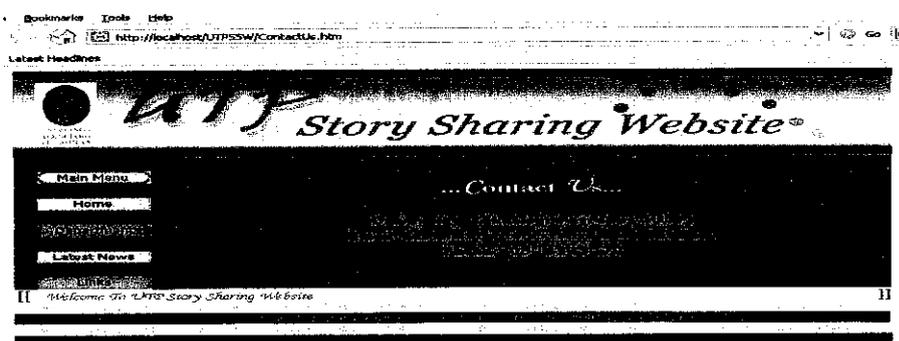
If the user is having any issues on storytelling or even the functionalities of the website, they can stay connected with the administrator by clicking on the contact us link that is being showed on every pages of the website. Email address and phone number is being provided to ease the reporting issues between the user and the administrator.

5. Testing For UTP Story Sharing Website

9.1 Usability Testing

Usability testing had been conducted to test on the accuracy of the functions of the website. All of the functions within the website are being tested one by one including the ability to let the user click on the specific link and get directed to the correct page or links, the ability to login as administrator and upload the files to the website and the ability to let the user save or open to view the power point slides on each of the topic under each subjects. The testers that are testing the website are the students and lecturers from various courses and year of experience including Engineering and Technology.

An evaluation about the usefulness of the website has been measured by giving out a set of questionnaires to the testers that are testing on the usability of the website. All of the testers believed that the never seen any similar website before in UTP. From the questionnaires answer, it shows that all the links are being directed to the correct page that it supposed to be. Moreover, they think that the website will be useful to boost the learning process because (points depicted from some of the questionnaires answer from the testers):

- It can enhance the extra understanding from real life experience and video that show the moving flow of the related topic, easier for the students to remember in the form of visual representation
- It can increase the level of extra knowledge that students can relate to the topic that they are learning.
- It is interesting way of understanding the knowledge because it has video and useful stories that increase the understanding level instead of using the Power Point slides only.

Besides that, all of the testers also agreed that the functions of the website satisfy their needs and requirements as a user. Some of the comments are as following:

- It has user friendly buttons and links.
- It uses simple English
- It has the video element which is preferred by the student.
- It provides proper security control to upload the files.

- The flow is not too complex.

9.2 User Acceptance Testing

The same set of testers is being used to test out the User Acceptance level of the website. The testers agreed that the website's links are easy to be seen and use. All of the testers also believe that the website is user friendly enough to both technical and non-technical user even though a guideline of using the website is not provided. The colors used in the website are not too striking and it looks interesting and calming. Majority of the testers rated their overall acceptance as 4 from the 1-5 ranking. 1=very poor, 2=poor, 3=Average, 4=Good, 5=Excellent.

CHAPTER 4

6. Case Tools Requirement

The tools that will be used in order to support the research will be:

1. Questionnaires forms (refer to appendix 1 and 2)

2. Microsoft Office Power Point

3. phpMyAdmin

4. Microsoft Frontpage 2003

Microsoft FrontPage was initially created by the Cambridge, Massachusetts Company Vermeer Technologies Incorporated, evidence of which can be easily spotted in filenames and directories prefixed vti in web sites created using FrontPage. FrontPage is designed to hide the details of HTML pages code from the user, making it possible for beginner to easily create web pages and sites. Some features that can be found by using Microsoft FrontPage 2003 include:

o Help navigating through your site, and seeing your file structure and its contents, visually

o Built-in features for HTML, CSS, and JavaScript (partial)

o Bundled image editor (Microsoft Image Composer)

o Point-and-click functionality for common tools, like Mouseovers, e-mail forms, and hit counts

CHAPTER 5

7. Conclusion

As the conclusion, storytelling can be a very useful tool in higher education if it is being used in a right way. The term using it in the right way here means using the storytelling method with the right process and with the right combination with other tools such as power point presentation, video or even images if related. So, storytelling will be beneficial to not only the students but also the lecturers and the higher institution because it can improve the knowledge transfer process and indirectly will improve the quality of learning and gaining knowledge by the students.

The author has proven of the objective that have been stated earlier of this report by having a real classroom research for Principle of Economics (Management) and Foundation Physics (technical) both from foundation studies, it is proven that storytelling can be used to aid the power slides and it help the students to perform better. A comparison between 2 methods which is Power Point slides Session VS. Power Point + Storytelling session) is also being done an evaluation of the effectiveness for both sessions being done through a quiz after both session. It is shown that Group of students experiencing Power Point + storytelling session can perform better than students who experience only power point session.

The author also was having another classroom research in order to study on the effectiveness of storytelling knowledge transfer method for foundation studies students specifically on technical subject which is Foundation Physics. The result shows that storytelling can be used for foundation technical subject too but it depends very much on the time and ability of the lecturer to plan the stories or analogies on the spot factor.

UTP Story Sharing Website had been developed where the lecturers can share the related stories of the teaching subject to the UTP students. This website is to create an awareness of UTP society on storytelling method. This will be valuable because stories which are in the form of tacit knowledge can be retained by documented it somewhere so that it is not lost over time.

It is important for knowledge to be transferred effectively from the person who has the knowledge to the receiver of the knowledge because the receiver is going to internalize the knowledge that they received. Inaccuracy in sharing the knowledge might cause miscommunication between the knowledge provider and the knowledge receiver and the wrong understanding on the knowledge might occur but by having a good communication and understanding of the environment this issue can be avoided.

Storytelling is an effective knowledge transfer method in higher education in both technical and management subject but with the considerations of:

- Time
- Experience and ability of lecturers in conducting storytelling

8. GANTT chart

ID	Task Name	Duration	Jan 2009		Feb 2009				Mar 2009				Apr 2009				
			1/18	1/25	2/1	2/8	2/15	2/22	3/1	3/8	3/15	3/22	3/29	4/5	4/12	4/19	4/26
1	Preparing for FYP II Progress Report 1	1w	■														
2	Continue with Website Development	12w	████████████████████████														
3	Preparing for Pre-EDX Poster	2w										■■					
4	Preparing for FYP II Seminar	1w											■				
5	Classroom Research 2	3w												■■■			
6	Preparing for FYP II Progress Report 2	2w									■■						
7	Preparing for FYP II Oral Presentation	2w															■

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10. Appendix

Appendix 1: FYP Questionnaires for Lecturers

Purpose: The purpose of this questionnaire is to support my FYP which is based on the research about the method of teaching in UTP and the limitations of the current teaching method. Your cooperation is highly appreciated.

1. In which faculty are you working in?

   ....

2. How many years are you teaching in the mentioned faculty as you stated above?
   - o Less than 1 year
   - o More than 1 year
   - o More than 3 years
   - o More than 5 years

3. Do you have any experience working in any of the industrial sector (If yes, please specify the industry you are involved in and how long is your experience with the industry)?
   - o Yes
   - o No

   ....

4. Are the subjects that you are teaching more to theories based or general knowledge based (Please provide the example of the subject(s))?
   - o Theories Based
   - o General Knowledge based
   - o Combination of both

   ....

5. What are the common tool(s) that you are using for the teaching process in classroom?

   - o PowerPoint slides
   - o Video
   - o Overhead Projector (OHP)
   - o Others (Please Specify)

   ....

6. Do you think by using the Power Point slides alone will make the learning process effective (Please specify the reason(s) of your choice)?

   - o Yes
   - o No

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7. What is the limitation(s) that you are facing by using power point slides in the teaching process?

....

....

8. Do you use any stories in your classroom?
   o Yes
   o No

9. If the answer for question 8 is "Yes", is the type of the story that you use is related to the theory of the subjects or it is non-related story? If the answer is "No", please specify the reason(s) of your choice.
   o Related
   o Non-Related
   o Others
   ....

10. In your opinion, will the teaching process will be better by telling story/past experience (Related or non-related story/experience) in classroom (Specify the reason(s) of your choice)?

    o Yes
    o No
    ....

THANK YOU FOR YOUR TIME!!

Appendix 2: FYP Questionnaires for Students

Purpose: The purpose of this questionnaire is to support my FYP which is based on
the research about the method of teaching in UTP and the limitations of
the current teaching method. Your cooperation is highly appreciated.

1. How old are you?
   o Less than 18
   o More than 18
   o More than 21

2. What course are you taking?
   ....

3. What is your specialization(s)?
   ....

4. Which year are you now?
   o Foundation
   o First Year
   o Second Year
   o Third Year
   o Final Year

5. Most of the subjects that you've taken are Technical, Management or Programming
   subjects?
   o Technical
   o Management
   o Programming
   o Others(Please specify)
   ....

6. What are the common tool(s) that your lecturers are using for the teaching process in
   classroom?

   o PowerPoint slides
   o Video
   o Overhead Projector (OHP)
   o Others (Please Specify)
   ....

7. Do you think by using the Power Point slides alone will help you to understand and
   remember the points taught by your lecturers (Please specify the reason(s) of your
   choice)?
   o Yes
   o No

o Sometimes

....

8. If there's a pop quiz, can you recall the points that are being taught by the lecturers through Power Point Slides in the previous week (Please specify the reason(s) of your choice)
   o Yes
   o No
   o Sometimes

....

9. Are your lecturers using any stories/past experiences in the classroom? (If Yes, please specify whether the subject(s) Technical, Management or Programming subject)
   o Yes
   o No

....

10. Do you prefer to listen to story/experience shared by the lecturer(s) whether it is related or non-related to subject? (Please specify the reason(s) of your choice)
    o Yes
    o No

....

THANK YOU FOR YOUR TIME!!

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Appendix 3: Storyteller Guidelines for the lecturer

Purpose:

Purpose of this document is to provide guidelines for the storyteller to follow in order to create or choose a story for the knowledge transfer session and the process of telling the story itself.

Target Audience:

Storyteller (Lecturers or tutor of the subject domain)

Author:

Malini a/p Chat, 7626, Universiti Teknologi PETRONAS (UTP)

Date:

2nd of September 2008

Introduction

Storytelling can be use as one of the method to transfer the knowledge in higher education, for example the process of transferring knowledge from the lecturer to students or from the tutor to students. It is important to make sure that the knowledge is being transferred successfully to the target audience.

There are many methods of measuring the effectiveness of the storytelling methods, so in order to get a more consistent way of testing the effectiveness of the storytelling methods, the author is coming out with this guideline for the storyteller to refer to in order for them to conduct a storytelling for transferring the knowledge. [4]

The first part of this guideline is focusing on how to conduct the tests in the real classroom while the second part of this guideline document will be focusing on the preparation of the story and storytelling itself.

Storytelling Test in the classroom

1. How to conduct the First Test- Using Storytelling + PowerPoint Slides

Pre-Test:
o Select 15-20 students from the class (Without telling the students that they are being tested).
o Choose a suitable and appropriate topic to be taught to the students for the session.
o Prepare presentation slides for the chosen topic.
o Prepare a set of Quiz Questions to be given out to the tested students on the given topic (suggested to be 10 questions).

During the Test:
o Teach the students by referring to the slides and relates to your past experience or any interesting stories that you know in order to describe the theories consisted in the chosen topic.
o Ask students to provide their views on the story or the past experience and how it is relating to the chosen topic.
o Observe student's attention in class during the session.

2. How to conduct the second Test- Using PowerPoint presentation without storytelling involvement.

Pre-Test:
o Select 15-20 students (Different set of students from the first session) from the class (Without telling the students that they are being tested).
o Choose a suitable and appropriate topic to be taught to the students for the session.(The topic must be the same as the topic in the first session)
o Prepare presentation slides for the chosen topic.
o Prepare a set of Quiz Questions to be given out to the tested students on the given topic (Same set of questions with the first session).

During the Test:
o Teach the students by referring to the slides as per normal without relating it to any past experience or stories.
o Observe student's attention in class during the session.

Post Test (For both of the sessions):
o Fill in the Evaluations Form given at the end of this document.
o Provide point of views on the test results (Student's performance).

Guidelines on Storytelling

1. Characteristics of a good story [4]:
   o A single clearly defined theme

   o A well developed plot

   o Characterization.

   o Faithful to source.

   o Dramatic appeal.

   o Appropriateness to listeners

2. Characteristics of a good storyteller [4]:
   o Take the story as close to audience as you can.

   o Keep it brief and simple.

   o Stimulate their senses so they feel, smell, touch and listen and see vivid pictures.

o Describe the characters and settings, and help them sympathize with the character's
   feelings.

o Aim your story at the younger ones when telling to audience of mixed ages.

o Dialog should make use of different voices for different characters where you will
   shift your facing (or posture) as the dialog switches from one character to another
   characters.

o Use your voice to create the atmosphere or tension as the story progresses.

o Use gestures and facial expressions add much to the visualization of the story. Be
   sure they are appropriate and natural.

o Pacing involves both the volume and rate at which you speak, and the progression of
   the action in the story. Dialog slows a story's pace down, while narrating action
   speeds it up.

o Repetition and Exaggeration have always been basic elements of story telling.

3. Preparation for the storyteller [4]:

o Read the story several times, first for pleasure, then with concentration.

o Analyze its appeal, the word pictures you want your listeners to see, and the mood
   you wish to create.

o Research its background and cultural meanings.

o Live with your story until the characters and setting become as real to you as people
   and places you know.

o Visualize the story. Imagine sounds, tastes, scents, colors. Only when you see the
   story vividly yourself can you make your audience see it.

o Learn the story as a whole rather than in fragments. Master, and then simplify, its
   structure to a simple outline of scenes. Don't try to memorize it, though you should
   always know your first and last lines by heart. Following are the important ways to
   understand a story:

   - **Map out the story line:** The Beginning, which sets the stage and
     introduces the characters and conflict; the Body, in which the conflict
     builds up to the Climax; and the Resolution of the conflict. Observe

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how the action starts, how it accelerates, repetitions in actions and how and where the transitions occur. If simplifying or adapting a story, do not alter the essential story line.

- **Absorb the style of the story:** To retain the original flavor and vigor, learn the characteristic phrases which recur throughout the story. Observe the sentence structure, phrases, unusual words and expressions.

o Practice the story often. Use your imagination to make the story come alive as you prepare.

4. Process of telling a story (Plot)

Climax

Body

Resolution

Beginning

Ending
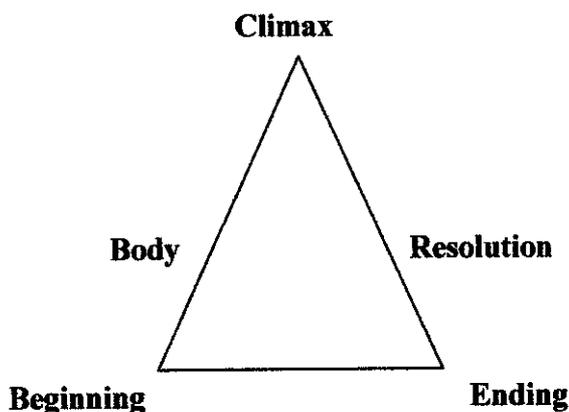
Beginning

Storytelling is best done in a relaxed atmosphere free of distractions. During the beginning, the storyteller must introduce the characters and conflict. The teller needs to give careful attention to the setting before hand and be prepared to rearrange a room to bring the audience closer, or use a backdrop or hangings to create atmosphere especially in classroom settings. Always try to make the opening of a story interesting or exciting for the reader to attract their attention.

Body

The body of a story is the rising part that leads to the climax of the story.

Climax

Climax is the most important part of a story. Climax will be the turnover point for a story which might be the point where the audience can remember the most as compared to the other phases.

Resolution

Once a story is reaching the climax part, there must be a way for it to resolve and move to an end of a story.

Ending

Ending of a story is where the storyteller in summarizing and concluding the story. A story without an end will be incomplete and hanging which is considered as not a good story. The final sentence is as important as the opening sentence. It usually sums up the story's theme or message.

5. Attention to Storyteller [4]:

Many factors affect the attention of your listeners. A storyteller always needs to be sensitive to the audience and may need to regain their attention before continuing.

o Involvement or participation. Use volunteer from the audience in your story or have the audience participate in hand motions or making sound effects.
o A distinct change in your pace, voice, or mood.
o An unusual or unexpected twist in the narration.
o Once you finish the story, stop and leave their thoughts lingering over it. Don't feel you have to explain everything, or tie together all loose ends. Let them go away thinking about what has been said, and drawing their own meaning from it.

Evaluations Form

Lecturer's Name:
Subject:
Number of students involves:

Quiz Evaluation:

Number of correct answer for the Quiz	Number of students (Test1)	Number of students (Test2)
0-1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Test's Evaluation:
(1: Very Poor, 2: Poor, 3: Average, 4: Good, 5: Very Good)

Criteria	Test1	Test2
Ability to retain students' attention in class		
Students' performance in answering the quiz questions (Overall performance of each test)		
Students' involvement in class/discussion (Students giving point of view/ask questions regarding the topic, past experience used or the stories used)		
Students' response towards the session (Enjoy or showing monotonous reaction throughout the session)		
Rate both sessions from your own point of view		

Please provide your point of views on both sessions. In your opinion, which session is better and why?

....

....

....

....

....

Appendix 4: Usability Testing Questionnaires

Please tick ☐ / **on the appropriate box provided for each of the question.**

Objective: This set of Questionnaires is to check on the usability of the UTP Story Sharing website's functionality and usabilty.

1. Name: ....

2. Age: _____ years

3. Faculty: _____

4. Year of experience: _____ Year(s)

5. Have you seen/use any similar website to Knowledge Sharing website in UTP?

   ☐ Yes   ☐ No

6. Is the main page which consists of introduction to storytelling and links to other pages appear when you click on the "Enter" link on the homepage?

   ☐ Yes   ☐ No

7. Can you see the list of faculties when you click on the Department's link on the top left side of the main page?

   ☐ Yes   ☐ No

8. When you click on the specific faculty on the Department's page, is the list of subjects related to the faculty appear?

   ☐ Yes   ☐ No

9. Once you clicked on the specific subject, can you see a list of topics specifically for the chosen subject with the related video, Power point slides and story link under each of the topic?

   ☐ Yes   ☐ No

10. When you click on the video link under the specific topic, are you being directed to the location of the video and can you watch the video?

    ☐ Yes   ☐ No

11. When you click on the Power point slides link under the topic, can you see an option box that give you the option to save or open the Power Point slides and can you save and open the power point?

    ☐ Yes   ☐ No

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12. When you click on the story link under the topic, are you being directed to the location of the written story?

☐ Yes   ☐ No

13. Can you see the word "welcome to UTP Story Sharing Website" that is moving from the bottom left to the bottom right at each of the pages that you view?

☐ Yes   ☐ No

14. When you click on the "Upload related PowerPoint/Story/video" link, is the login as administrator page appears?

☐ Yes   ☐ No

15. When you key in the user name or password and click on the reset button, is the username and password being cleared from the text box?

☐ Yes   ☐ No

16. Once you enter the correct username and password and click on the submit button on the login page, can you see the upload file page?

☐ Yes   ☐ No

17. Can you enter the name of the topic into the textbox and browse the power point, video and story from the location that you've stored all those files?

☐ Yes   ☐ No

18. When you click on the "Latest news on Storytelling" link located at the top left side of the website can you see lists of categories of news including Forum, Workshop, Training and Article and once you click on each of the categories, is a list of topics on the categories appear?

☐ Yes   ☐ No

19. Once you click on the "Links" link on the top left side of the website, is the list of links to other university and colleges appear?

☐ Yes   ☐ No

20. Once you click on the "Contact us" link on the top left side of the website, can you see a page with the contact number and email of the administrator appears?

☐ Yes   ☐ No

21. Do you think the website is useful to the Lecturers and students of UTP in order to boost up the learning process?

☐ Yes   ☐ No

Justify your answer

....
....

22. Is the website's functionality meeting your expectation?

☐ Yes   ☐ No

Justify your answer

....
....

Thank you for your effort and co-operation in completing this questionnaire.

Appendix 5: User Acceptance Testing Questionnaires

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Please tick [/] on the appropriate box provided for each of the question.

Objective: This set of Questionnaires is to check on the usability of the UTP Story Sharing website's user friendliness.

23. Name: ....

24. Age: _____ years

25. Faculty: _____

26. Year of experience: _____ Year(s)

27. Have you seen/use any similar website to Knowledge Sharing website in UTP?

    [ ] Yes   [ ] No

6. Do you find that the links of the website are easily being seen?
    [ ] Yes   [ ] No

7. Do you find that the website have a proper security control?
    [ ] Yes   [ ] No

8. Is the website user friendly enough to both technical and non-technical user?
    [ ] Yes   [ ] No

9. Is the Process of viewing the related video/written story/ power point slides too complicated for the user?
    [ ] Yes   [ ] No

10. Is the process of uploading the related video/story/power point too complicated for the user?
    [ ] Yes   [ ] No

11. What is the function(s) that you think it is not relevant to the website?

    ....
    ....

12. Are the functions of the website satisfies you as a user? If not what is the other function(s) that the website should have?

....
....

13. Rate the website: 1=Very Poor   2=Poor   3=Average   4=Good   5=Excellent!

☐   1

☐   2

☐   3

☐   4

☐   5

Thank you for your effort and co-operation in completing this questionnaire.

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**Appendix 6: Interview Questions for students in Second Classroom Research
(Foundation Physics)**

Classroom Research on Storytelling/Analogy method

Subject: Foundation Physics
Department: Foundation Studies

1. **What do you think about lecturing session by using power point slides only
   without any analogy/stories to relate to the theories in the lecture slides?**

   ....
   ....
   ....
   ....
   ....
   ....

2. **Why do you prefer/Not prefer analogy/stories during the lecturing session?**

   ....
   ....
   ....
   ....
   ....
   ....

3. **Do you agree that by having analogy/stories related to the topic will help you to
   understand and remember the points in the topic?**

   ....
   ....
   ....
   ....
   ....
   ....