

A Study on the Development of storytelling based Learning Model for Learners*

Kang, Mun Suk**

International University of Korea

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ABSTRACT

The purpose of this research is to develop a storytelling based learning model for learners. For this, firstly, this research devised the storytelling based learning model through studying literacy research and case studies in order to develop this program. Secondly, we corrected and supplemented the first draft model through formative evaluation. Thirdly, the draft model was applied to the actual work. And the draft was modified and developed to the final model on the basis of the draft model's strength and implemented to 27 students who were the sophomore of early childhood education department and enrolled the profession class of at H University J city for 10 weeks. From the implementation result of the model, it was obtained that there was the positive reaction on applying storytelling technique to the beginning stage of learning. The researcher proposed a storytelling based learning model for learners which 3 stage of macro is initial stage, process stage, closing stage and consists phases of micro. initial stage : understanding storytelling learning, setting the goal of a storytelling, team Building and role constructing, sharing story. Process stage : role reconstructing, first draft of concept, outline of concept, embodiment of concept, understanding how to make multimedia, creating a visual scenario, creating a storyboard, produce the final result. Closing stage : Sharing the final result and presentation, reflection and evaluation activity. And learners were willing to transform their pedagogy and curriculum to include storytelling learning model.

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** Corresponding author, storytelling@iuk.ac.kr

I. Introduction

Since the early days of civilization, storytelling has been important for the distribution of knowledge and preservation of heritage from generation to generation in world cultures. From the Egyptian age to the 21st century, storytelling has changed from oral fables and tales to in multimedia ways. Regardless of the storytelling format, a common element identified in the storytelling is its educational nature—to distribute knowledge and share understanding among people across different cultures (Shuyan, Hong, 2010).

In addition, the interaction between students, the flow of ideas and thinking aloud encourage students to foster active learning, in which users discover and address gaps in their understanding when explaining concepts to others. Storytelling is the original form of teaching. It is a simple but powerful method to help students to make sense of the complex and unordered world of experience by crafting story lines (Bruner 1990; Gils 2005). Although storytelling is not new, the idea of digital storytelling is new (Meadows 2003). Learners can improve their learning because storytelling, as a pedagogical tool in higher education, seriously takes the needs of learners to make sense of experiences and seek meaning from their lives (McDrury & Alterio, 2003).

Research indicates that in order to achieve meaningful technology integration, learning must be designed from a constructivist approach that encourages students to learn in a social context and help them to develop an ability to readily create new knowledge, solve new problems and employ creativity and critical thinking (Griest 1996; Hoffman 1997; Mergendollar 1997; Richards 1998). Spivey (1997) indicated that constructivists view students as constructive agents and view knowledge as built instead of being passively received by students, whose ways of knowing and understanding influence what is known and understood.

According to Barrett (2006), he reported that digital storytelling facilitates the convergence of four student centered learning strategies: student engagement, reflection for deep learning, project based learning, and the effective integration of technology into instruction. Gils (2005) suggested many advantages of using digital storytelling in education: (1) to provide more variation than traditional methods in current practice; (2) to personalize learning experience; (3) to make explanation or the practicing of certain topics more compelling; (4) to create real life situations in an easy and cheaper way; and (5) to improve the involvement of students in the process of learning. According to Pedersen (1995), stories are the oldest form of literature. Tsou et al. (2006) found that integrating digital storytelling into the language curriculum is a creative language learning technique that can improve student's level of learning in reading, writing, speaking and listening.

Storytelling learners can develop the ability to cope with the information society as learners upload their work on blogs and utilize it during the course with active and fun activities, and finally make the learners have interest, participation and positive self expression and sharing. With this perspective, storytelling has the educational effectiveness which encourages learners' participation in the practical

learning activities that is the center of the creation and production as they express their thinking actively and share the thought, and make the creative contents in the cyber space. Therefore this effective storytelling has the characteristics of the diverse multimedia that is supplied with audio materials like subtitle, text, sound and explanation, that the teacher and learner made or edited by themselves, in order to use in the instructional learning activities.

Also, research has been going on in various social areas and educational field (Kang, 2007; Kim, 2009; Jung, 2007; Choi, 2007). Storytelling has high visual learning effectiveness on the aspect of its' effectiveness of the content delivery for the sensible and vigorous materials, and new and various self-expression acting through the storytelling (Kook, 2003; Lee, 2000).

In spite of this educational effectiveness, the research on storytelling has encountered difficulties in finding proper videos that fit the educational purpose and content, and editing according to the educational purpose and content as well, so the utilization of the video materials is very limited (We, Kim, 2006). Most researches on storytelling explain the types of new communication, but research on how to process the instructional learning activities related to the production of storytelling is still needed (Kang, Kim, 2009; Kim, Jung, 2009). In the field of learner in particular, the research on the recognition and utilization method related to the computer education for teachers is the most conducted, but the experimental research on the development of storytelling has been totally absent (Kang, 2003; Kim, 2007; Kim, Kim, 2003).

On the other hand, for enhancing problem solving ability, team learning that maximizes the interaction among the learners and teacher, and the content using team learning environment has been emphasized (Lee, 2007). Team learning is the learning environment integrating the strong points of face to face classroom learning. The team learning environment makes it available to have the various activities that could learning convenience, learning materials, and an instructors. Therefore, college courses can introduce team learning as an effective teaching and learning method, and storytelling instructional learning activities based team learning will be needed for learners because there has been highly efficient result on the ability of utilization of storytelling and the experience of the online system (Lim, 2007).

If storytelling is utilized in team learning, effectiveness could be enhanced. Firstly, learners can become more active participants (Lee, Jung, 2008) and more productive learners (Park, Kim, Kang, 2010) producing learning materials in collaborative ways. Secondly, the learners can be expected to communicate for solving tasks interact and produce the organization as they assign tasks to each other, create the satisfying results in various ways within the due date, and upload it on the SNS. Namely, the communication for solving the task emphasizes interactive cooperation (Seong, 2002), it makes it possible to have the students get evaluated and solve constructive conflict in the environment of trust and mutual respect (Levi, Cadiz, 1998). Thirdly, team learning on the SNS is accessible for learners to share team tasks and learning experience as learners open the learning materials and assignments in the flexible organization (Jung, Youn, 2007). It can minimize the errors that could happen in the performance of task. Therefore, it is meaningful to develop an educational storytelling model for the

learners in the team learning environment.

On the other hand, creativity is a core competency to be raised in school education today. Creativity is the ability to produce novel and appropriate things in everyday problem solving situations. Creativity education is needed for the early childhood teacher education of the university. Learners who have been trained in creative problem solving connect the curriculum contents with the real life in consideration of the characteristics of learners. And learners who have been trained in creativity education plan and implement new and appropriate curriculum using various media and techniques (Esquivel, 1995; Hornig, Hong, ChanLin, Chang, & Chu, 2005).

Creativity applies creative problem solving strategies efficiently (Pannells, 2011), produce creative products, and pursue new teaching and learning methods (Kuang, 2011). In addition, teachers with high levels of creativity awareness and ability to think creatively reproduce the democratic classroom atmosphere (Halpin, Goldenberg, & Halpin, 1990). Especially, the focus on creativity education should be focused on the teacher education process of early childhood teachers because of patience, prudence, and creative behaviors of early childhood teachers contributing to the creativity of early children (Gwon, 2004). Storytelling based learning model consists of dramatic story situation. The process of solving a story is accompanied by an 'imagination' that deduces characters' intentions and feelings and analogizes their words and actions. In other words, the storytelling based learning model enriches the learner's imagination. In this respect, this model can improve learners' creativity.

Model development includes Carroll, PBL, ARCS, ASSURE, Dick & Carey, Glaser, and Story form model. In this paper, we propose a story form model of Egan (1986) in which the unit story is reconstructed analytically from a microscopic viewpoint. Story form model of Egan(1986) shows concrete method of selecting contents and organization, but concrete alternatives are not suggested for teaching media production and development (Joe Heejung, Dae - kyun, 2012). In this study, the story form model of Egan (1986) is useful in constructing a story of a learner's personal experience story, but it needs to be composed of early childhood education class lessons or complementary to media production and development.

On the other hands, the educational paradigm shift has made the distance education and internet learning a part of life. In this aspect, the utilizing ability of software is required for early childhood pre-service teachers and it should be storytelling integrated and utilized in the curriculum of early childhood education (Hoffman, 1994; Kim, Kim, 2003). The experience of observing computer utilizing model, consistent scholarship, etc. in teacher training courses are the essential elements (Epstein, 1993), but the ability of utilizing the computer for early childhood pre-service teachers is very insufficient (Kang, 2003).

Also, research on how to process the instructional learning activities related to storytelling production for early childhood pre-service teachers is in great need. This indication shows the need for research on systematic educational storytelling development that helps early childhood

pre-service teachers in the training center increase the abilities of planning, designing, editing, using and managing multimedia. Therefore, the purpose of this research is to develop a systematical storytelling model not only for knowledge acquisition, but also for integrating knowledge from various field through collaborating and sharing with others as well as creating knowledge information.

Accordingly, the purpose of this research is to develop a storytelling based learning model for creativity improvement of learners. The specific tasks of this research are as follows.

1. The first draft of storytelling model based learning will be deducted. And then, through the formative evaluation by specialists, the first draft model will be modified.

2. The modified model will be applied in the college course and the strong points and the weak points of the model will be deducted, and finally the final model will be drawn.

II. Theoretical Background

A. Storytelling

Most storytelling work seems to be done in advertising and management context, and literary theory uses the terms narration and narrative. I couldn't even find a clear definition of storytelling. But you can narrate real-life events which don't constitute a story proper. Storytelling can be fairly interchangeable. Story in the field of rhetorical analysis appear to be used to mean the same thing in many papers that I've seen. Storytelling, at least in this sense, is an art form. It's the ability to compellingly tell a story.

Storytelling requires more active and positive knowledge producers who do not just receive the knowledge and accept it, but act as a manufacture or constructor who makes knowledge by themselves, and if needed, reflects the opinion of others and remakes new information (Kang, 2007). Storytelling is not a guide to teach you how to become an author, but instead focuses on using narrative technique to communicate your message. By thinking about what you want to say in terms of a story, you can create a coherent thread that is easy and interesting to follow. In creating a narrative to run through your entire talk, article or exhibition, you can ensure that your engagement activity follows a coherent structure. Within this, it is also a good idea to make use of storytelling and anecdotes in order to illustrate certain points.

Like this, storytelling learning activities utilizing storytelling educationally has characteristics such as active participation, communication for solving tasks, and sharing products. First, storytelling learning supplies abundant learning resources and facilitates the active participation of learners. As Lee & Jung (2008) insisted, class participation could be increased as the learners make their own learning materials. Second, storytelling learning makes

communication available for solving tasks as they produce the resources by themselves and post it on the SNS in many different ways. Namely, the communication for solving tasks emphasizes communication among the learners and interactive collaboration (Seong, 2002) as they share the posted assignment and conduct peer reciprocity evaluation (Lee, Jung, 2008). Third, storytelling learning allows learners to share their assignments, so the learners can get access to learning materials, and this open resources help them make less errors during the learning process (Jung, Youn, 2007).

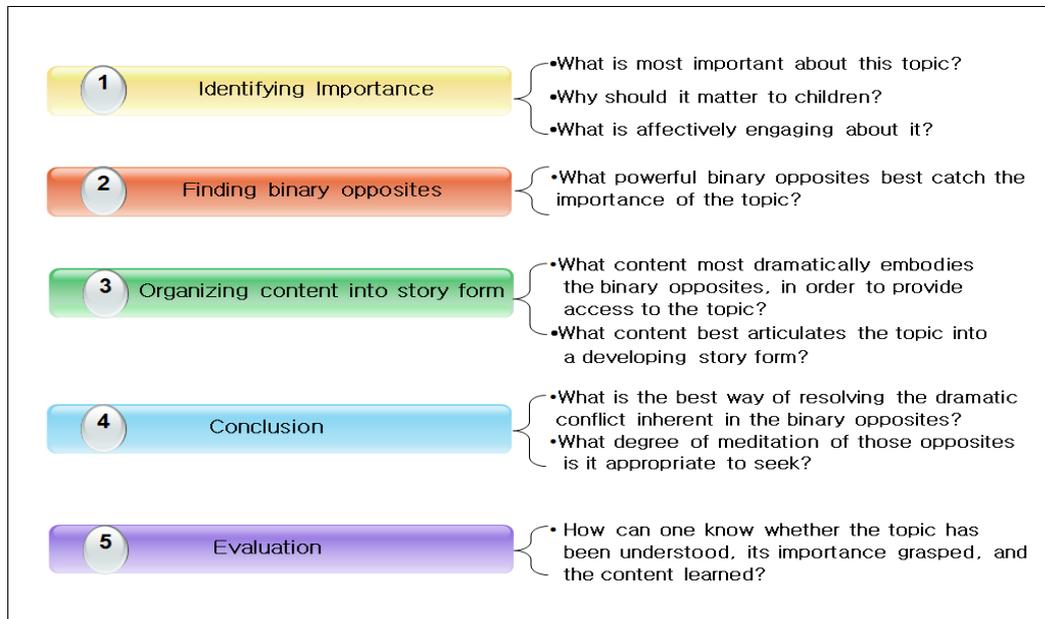
Every day, people use memory tools, such as narrative, to recall sequences of letters, words or numbers. Constructing a narrative will also help you in structuring your speech and sticking to the point or points you want to make. Storytelling provides the opportunity to insert an element of fun into the activity, which will make the experience more engaging for both you and the audience. Storytelling particularly in the creation of characters and exemplars, allow you to easily reference something you have previously explained, without having to repeat the entire explanation.

The Greek philosopher, Aristotle set out a three-act structure for storytelling: Beginning: Set up the story - introduce the characters and the status quo and then introduce the catalyst. Middle: The conflict rises until it reaches a crisis or turning point. End: The climax and resolution. Pad the story out: Gustav Freytag built on Aristotle's work. He set out five plot components: 1. Exposition: The situation before action starts. 2. Rising action: A series of conflicts and a crisis. 3. Climax: The turning point most intense moment of the story. 4. Falling action: Action that follows the climax. 5. Resolution: The conclusion, tying together all threads.

B. Learning model

Learning design focuses on the means for establishing the objectives for the learners rather than the result of the work (Choi, 2010), and presenting the right or wrong situations for using the means and methods supporting and facilitating learning. The learning model is not only the integrated system, but also the means to explain and predict a phenomenon (Reigeluth, 1999). Through the learning design model, the problem of the instructional situation could be well understood and could suggest the effective solution (Korean Society for Educational Technology, 2005). In order to develop an instructional design model, generally the instructional designers analyze advanced research, general common sense, and practical experience (reflection) through the intuition of the theorist (Reigeluth, 1999). Learning model also belongs to this category.

Learning model development includes Carroll, PBL, ARCS, ASSURE, Dick & Carey, Glaser, and story form model. In this paper, we propose a story form model of Egan (1986) in which the unit story is reconstructed analytically from a microscopic viewpoint.



<Figure 1> Story form Model(Egan, 1986)

Egan (1986) has five stages. First, the identifying importance stage identifies the importance of the learning topic by considering the core contents of the topic to be learned, why it is important to the learner, and being emotionally immersed. Second, the finding binary opposites step needs to find out what the contents can represent and to proceed with the story. For example, large and small, love and hatred, safety and fear, good and evil. At this point, the professor should take into account the opposing extremes and lead them to rich narrative lessons so that learners can create conflict factors. Third, the stage of story creation approaches the topic of learning and expresses the most dramatic expression of the anode. This step selects the content that best constructs the topic in a narrative form, and it is necessary to select and select the content according to the two extremes. Fourth, the conclusion is concluded as the best way to solve the dramatic conflict in the bipolar. In the conclusion, it should be provided to resolve the dramatic conflicts that exist between these subjects. Fifth, the evaluation step assesses whether learners understood the topic, understood its importance, and examined how the content was learned.

For example, let us then consider the basic story form and abstract a few of its most prominent features. let me briefly sketch how one might use this framework in planning a unit on heat at the elementary level. Items 1 and 2 are intertwined clearly. We have to identify for ourselves what is important about heat in a way that we can find affectively engaging, and we need to express this in binary terms. One solution is to think of heat in terms of helper/destroyer. These terms will then form the binary structural basis for our unit.

Therefore, storytelling based learning model means the system of simplifying explanation or structure of complex learning process or phenomenon focusing on specific elements, the framework of planning the course (Kim, 1997). In other words, learning model should suggest the content, people, material, methods, and conditions to make learning happen (Lee, 2000). This research intends to develop a storytelling model based on learning, combining and utilizing online and offline learning strategies to maximize the effectiveness of learning.

Online and offline learning has been defined in different ways, but no mutually agreed exact definition exists (Graham, 2005). It is not just learning environment, but it expands its' conception and area up to the learning strategy for drawing out maximum learning effectiveness through combining various learning elements according to the content and the purpose of the course, learning objectives, learning methods, time and space, learning activities, learning media, learning experience, interaction ways, and so on (Lim, 2007; Jung, 2007; Fox, 2001; Masie, 2002). Accordingly, learning model and storytelling is a good way to capture the learner's creativity in a way that they can understand and relate to.

III. Research Method

This research has been performed to develop a storytelling based learning model in University. At first, the process of the model was analyzed through literature research and case research, and then core learning activities were drawn out, and the first draft of the model was designed. In order to find out the strong points and the improvement of the model, a FGI (Focus Group Interview) was implemented by a specialist in formative evaluation, then the model was applied in the field and the implication of the model was explored.

This research processed using various methods such as design research, practical research, formative research, etc., and it could be used to develop and improve diagnostic theory, models, or the real process of the course (Richey, Klein, & Nelson, 2004). Development research is a systematic study of design, development and evaluation processes with the aim of establishing an empirical basis for the creation of instructional and non-instructional products and tools and new or enhanced models that govern their development (Richey, Klein, 2007). Also, it was developed through the process of analyze, design, development, implementation, and evaluation based on the process of the ADDIE model and story form model of Egan (1986). To confirm the validity of the output results, the method of triangulation was used.

A. Literature Research

This research analyzed material centered on learners, storytelling, model development,

resources from the National assembly library, public library, etc., and selected data focusing on the highly equated literature among articles and separate volumes domestically and internationally. Literature analysis was implemented by using the method of the content analysis that draws out a structural elements of learners, storytelling (Hwang, Sung, 2006). Namely, core idea, process of the model, and core learning activities were drawn out through the method of qualitative content analysis on the literature of the producing steps of storytelling, teacher's manual, the supporting elements (Shin, 2007; Moon, 2007).

B. Formative Evaluation of the Specialist

The first draft of the model was corrected and supplemented by the advice of the content specialist and the instructional design specialist to confirm the reliability of the research results. The specialists include content specialist (Educational technology major, Instructor of early childhood), learning dsigner(Professor of P Univ. Dr. of educational technology), and educational field specialist(Professor of D Univ. Instructor of early childhood). Examination of the reliability of the model was executed, and the result of the examination by cross validation shows the reliability increased. The questionnaires for the interview are composed of the core idea, process, core learning activities, and site suitability.

C. Formative Evaluation

The model was applied in the course of 'Teaching subjects in early childhood education' in the department of early childhood education for the 3rd grade of P University (27students) majoring in early childhood education from March to June, 2015.

The research caught hold of the degree of understanding of storytelling for early childhood pre-service teachers, in order to develop the storytelling model to get specific research procedure and data collection, data analysis method and security of reliability. Most students have experienced storytelling like fairy tales, but have no experience of developing and making storytelling, and little experience on video recording using digital cameras.

This research executed the analysis of the participants' observation, reflection activities using the general strategy of the data analysis by qualitative research method in order to increase reliability. The site suitability of storytelling based learning model was analyzed based on student interviews, meeting reports, and reflection note. The data of the observation on the participants was collected through out the whole process of the research. Meeting reports and the team reports online and offline were up loaded on the SNS (Social Network Service). 15 facilitators among the participants of the course were interviewed, recorded and transcribed.

Also, the learning supporting SNS was managed for monitoring students' learning activities

and for facilitating the mutual communication. This supporting system facilitated collaboration through various interaction using the functions of announcement, report, gallery, reflection and so on.

The formative research was implemented for 10 weeks during the course. The pre learning for the storytelling based learning development was executed in class with a beam projector, PPT and videos. Topics were selected and shared, and explored the direction of the storytelling based learning model development, and then the composition of story and producing storyboard, final storytelling product and guidelines were supported. 5 teams were assigned each role and developed the strategy of storytelling based learning model.

D. Reliability Security

This research collected various data, utilized diverse resources, and more than two researchers worked together, and the method of triangulation was used to increase the validity (Kim, 1999). Namely, the content specialist, the site specialist for utilizing storytelling, and the learning model specialist were interviewed and the formative evaluation of specialist was exhibited and their advice was fully reflected in the research, and the data was extracted from the analysis on learning interview, reflection note, meeting reports, observation report and so on.

IV. Research Result

A. The First Draft of storytelling based learning Model

This research collected various data, utilized diverse resources, and more than two researchers worked together, and the method of triangulation was used to increase the validity (Kim, 1999). Namely, the content specialist, the site specialist for utilizing storytelling, and the learning model specialist were interviewed and the formative evaluation of specialist was exhibited and their advice was fully reflected in the research, and the data was extracted from the analysis on learning interview, reflection note, meeting reports, observation report and so on.

The process of the storytelling production is various, and some scholars have different opinions on it (Lee, 2009). Ham (2008) suggested specific process and detailed activities as the process of storytelling production like the following steps; first, selecting the topic, searching related information and classifying, and then, analyzing the learning content and making out the content design, and, making out the storyboard, building the shooting plan, shooting, digitalizing, editing, then, reviewing the draft video, using, evaluating. Based on the above researches, this research drew the educational storytelling process and core activities. The first draft of

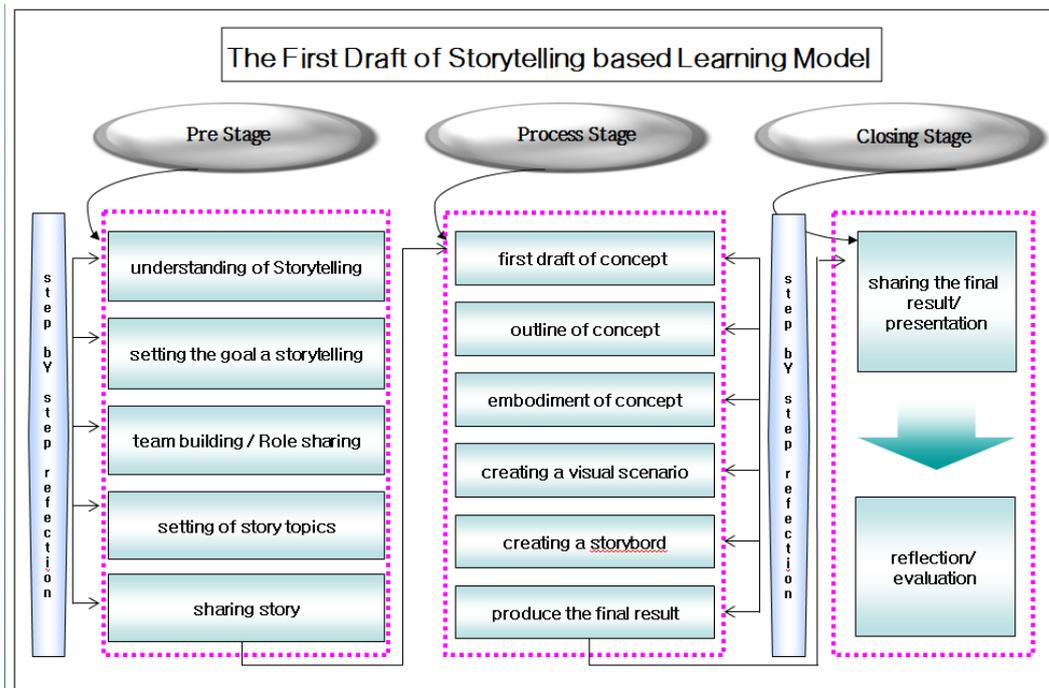
storytelling based learning model is shown in <Table 2>.

<Table 1> The first draft of the storytelling model based on learning

Stage	Process	Core Activities of Learner	Core Activities of Instructor	Supporting Elements of Learning Activities	Result
Initial Stage (Advanced Learning)	Understanding of Storytelling -Performance Readiness -setting the goal a storytelling -team building/role sharing	<ul style="list-style-type: none"> •Finding out Learning Objective and Advanced Learning •Recognition the performance procedure and method •Storytelling video experiencing 	<ul style="list-style-type: none"> •Scaffolding -Guide the purpose of Storytelling learning •Coaching -Feedback on the pre step 	<ul style="list-style-type: none"> •Supporting the Storytelling development planning •Storytelling video 	<ul style="list-style-type: none"> •Team Storytelling developing plan •Learner analyzing
	Setting of story topics -Topic Search and Setting	<ul style="list-style-type: none"> •Exploring various types of team building and Composition of the web of topics •Setting the activity schedule •Role assignment of team members 	<ul style="list-style-type: none"> •Scaffolding -Design and produce of the learning support cafe and Storytelling production •Coaching -Feedback on the planning step 	<ul style="list-style-type: none"> •Monthly schedule •Supporting Storytelling supporting cafe (Information Resources) 	<ul style="list-style-type: none"> •Forming topic-web •Cafe •Portfolio
	Relative Resource Exploring and Sharing -sharing story	<ul style="list-style-type: none"> •Collecting resources •analysis, synthesis, and share •Plan the storyboard and composition •Producing video and practice 	<ul style="list-style-type: none"> •abundant learning resource - Support the attaining method of Information and resource •Coaching -Feedback on the process step 	<ul style="list-style-type: none"> •Resource uploading and on cafe and sharing •Storytelling producing method •Direct Storytelling video production method -introducing Moviemaker, Premere Program 	<ul style="list-style-type: none"> •Information sharing and resource uploading on the cafe

Process stage	<ul style="list-style-type: none"> -first draft of concept -outline of concept - embodiment of concept -creating a visual scenario -creating a storyboard 	<ul style="list-style-type: none"> •Making up the first draft of task solving: writing storyboard and producing video •Correct and confirm the result of task solving : Upload the Storytelling video 	<ul style="list-style-type: none"> •Communication and collaboration support -Support on the discussion, Idea exchange, and feedback •Knowledge expression -Support the midterm product and resource center for final result sharing -Introduce the method for Storytelling uploading and the site •Scaffolding and coaching -Advice and help for the midterm result 	<ul style="list-style-type: none"> •Guide Storytelling uploading and introducing site - Daum Cafe - kakaotalk 	<ul style="list-style-type: none"> •Midterm product and Storytelling producing
Closing Stage		<ul style="list-style-type: none"> •Produce the final result •Presentation and discussion 	<ul style="list-style-type: none"> • Guiding for the reflection note and evaluation for the learner • Supplying Positive feedback 	<ul style="list-style-type: none"> •Supplying Reflection note and Evaluation form •Supplying beam project 	<ul style="list-style-type: none"> •Final result

The first draft of the storytelling based learning model including the core learning activities with the steps of the storytelling production was drawn out. This model shows the overall diagrams on the learning procedures with basic steps such as learner activities, instructor activities and so on. Team learning has diverse ways to use the learning time, learning place, learning media, interaction type and so on. And this model was applicable for learners and utilizing team learning strategies to maximize the effectiveness of learning. The first draft of storytelling based learning model is shown in <Figure 2> .



<Figure 2> The first draft of storytelling based learning model

This research revealed that the components of the three stages are the essential core process according to the result of the specialist's formative evaluation. Also, exploring the related resources, the step of sharing and task solving are the essential elements as well. And the whole flow of the model is systematically well composed as we see the component elements of each step of the storytelling based learning model, and proper for supporting the instructional learning activities. Also, this model is a process-centered learning model because it is not just trying to produce the result, but to guide each process. Also, this research shows that training of the video editing for learners such as video editing, sound, superimposed dialogue, image editing, and idea-producing tools is required.

After the first draft of model was applied in the course, this research drew out the strong points and the weak points of the model through observation, reflection notes, meeting report and analysis of the presentation. Kim's (1999) method of analysis was used.

As a result, the strong point of the model is that the learners show positive response to team work rather than individual work on the assignment. This result reveals that the various ideas through the team meeting facilitate learning activities. Secondly, producing creative storytelling through divergence and convergence of diverse ideas was actively practiced. Thirdly, learners could participate in the course more actively as they collect the issues and information related to

early childhood educational and produce the materials by themselves. And participation in the course was increased through role assignments, communication for the task solving, and interactive collaboration.

In the results of the formation evaluation, specialist had the following opinions. The process of storytelling-based learning model is a core process that is essential. Therefore, it is appropriate to support teaching and learning activities. And learners are not simply focused on producing output. Therefore, this model can be process-oriented learning by fully guiding the process. However, it is necessary to provide an idea generation tool that can generate ideas to improve creativity. In terms of learner cooperation, clear evidence was apparent that learners worked collaboratively in preparing their stories. The content, design and presentation of stories indicated that usually learners, actively participated in preparing their stories and those learners did reflect awareness of others' views and opinions in their presentations. In terms of story organization, the results showed that planning and storyboarding occurred in most cases, scene showed some variety in length, and pace was somewhat consistent but could be distracting in some instances. Elements were mostly consistent from scene to scene and some stories did seem to have a beginning, middle or end (Alaa, 2008).

In addition, it was noticed that learner motivation and engagement in story development projects based on the subject matter increased and learners ICT skills became more developed. Subjects, such as 'Teaching subjects in early childhood education', are likely to have a convincing effect on student activity and engagement in developing their stories. These subjects were higher level and cognitively challenging to engage students in learning and encouraged them to search for information, images and audio clips for their digital stories.

On the other hand, improvement is required like the following. First, the pre learning of video editing program for producing storytelling is needed. Namely, the video producing training should be prepared at pre-learning through student analysis. Secondly, learning supporting system is required for collaborative relationship among peer learners.

B. The final draft of storytelling based learning model

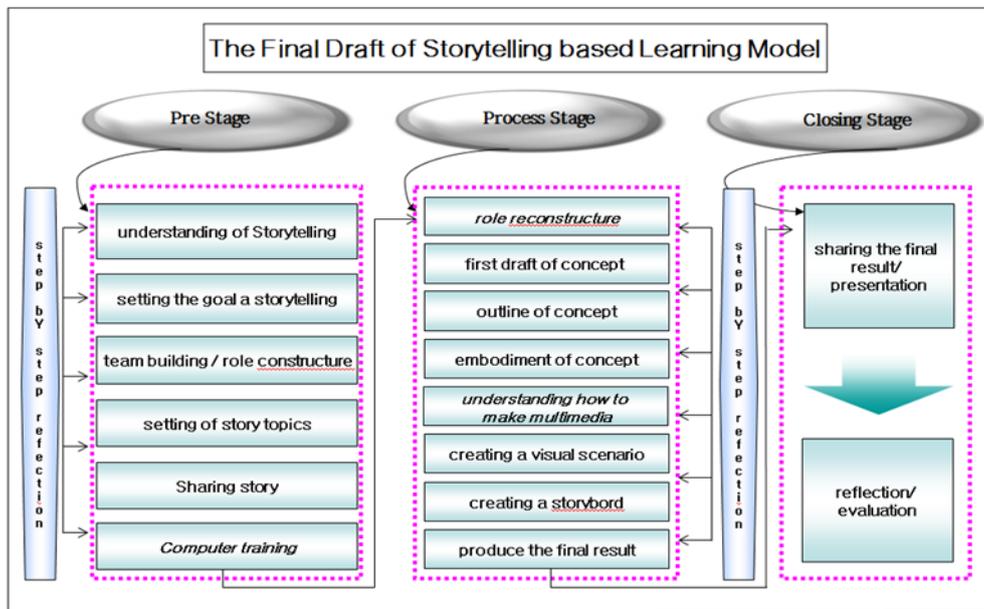
The result of the formative evaluation of the professionals, and the strong points and the weak points of the field application were reflected, and the model was corrected and supplemented like the following. First, the process of the computer training for video editing related to storytelling production at pre-stage was added. Secondly, the worksheet for team building and the tool for team activities, idea producing and organization, and continual monitoring with team members and the instant feedback was added. Thirdly, the process of the team building for role restructure and understanding how to make multimedia at process stage was added. The final draft of storytelling based learning model is shown in <Table 3> .

<Table 3> The final draft of storytelling model based on learning

Stage	Process	Core Activities of Learner	Core activities of Instructor	Supporting Elements of Learning Activities	Result
Initial Stage (Advanced Learning)	Understanding of Storytelling -Performance Readiness -setting the goal a storytelling -team building/role sharing	<ul style="list-style-type: none"> •Learning for the video editing, image editing •Confirm the learning objective and advanced learning •Recognition of performing process and the method •Experiencing Storytelling videos 	<ul style="list-style-type: none"> •Analyzing learners -Surveying •Training for the Storytelling producing •Guidelines for the method of collaborative learning •Scaffolding -Guiding the purpose of the development of Storytelling and learning objective •Coaching -Feedback on the pre step 	<ul style="list-style-type: none"> •Supporting the team research planning •Storytelling video 	<ul style="list-style-type: none"> •Team research plan •learner Analysis
	Setting of story topics -Topic Search and Setting	<ul style="list-style-type: none"> •Team building and topic-web setting •Make the schedule of the activity •role assignment of the team members 	<ul style="list-style-type: none"> •Scaffolding -Design and product the leaning support for the Project of Storytelling production •Coaching -Feedback on the planning stage •Continual monitoring with the team members and the instant feedback 	<ul style="list-style-type: none"> •Supporting the form and tools for the team building •Supplying the tools for the composing the topic-web and producing the ideas •Supporting the monthly schedule •Supplying the cafe for Storytelling supporting 	<ul style="list-style-type: none"> •Topic-web •Cafe •Portfolio
	Relative Resource Exploring and Sharing -sharing story	<ul style="list-style-type: none"> •Collecting resources •Analyzing, synthesis and sharing •Planning and composing the storyboard •Producing and Practicing the video 	<ul style="list-style-type: none"> •Rich learning environment -Guiding for the collecting information and resources •Coaching -Feedback on the pre stage 	<ul style="list-style-type: none"> •Resource up loading and sharing at the cafe •Training the method of Storytelling production •Training the method of video production -Guiding the moviemaker, Premere program 	<ul style="list-style-type: none"> •Information sharing on the cafe board and resource uploading

	<ul style="list-style-type: none"> -first draft of concept -outline of concept -embodiment of concept -creating a visual scenario -creating a storyboard 	<ul style="list-style-type: none"> •Planning the draft of the task solving: <i>Making the Conti and producing video</i> •Correcting the final result and Storytelling up loading 	<ul style="list-style-type: none"> •Supporting communication and collaboration -Discussion, idea exchange, feedback supporting •Knowledge expression -Supporting the resource center for sharing midterm product, final result -Introducing the method for the Storytelling up loading and the site •Scaffolding and coaching -Advice and help for the midterm result 	<ul style="list-style-type: none"> •The case of the storyboard •Guidelines of making storyboard •Method of communication •Guiding Storytelling up loading and introducing the site -Daum Cafe -kakaotalk 	<ul style="list-style-type: none"> •Midterm result and Storytelling production
Closing	<ul style="list-style-type: none"> -produce final result -Producing final result/ -reflection and evaluation 	<ul style="list-style-type: none"> •Presentation and discussion 	<ul style="list-style-type: none"> •Guiding the learner's reflection note and evaluation •Supplying the positive feedback 	<ul style="list-style-type: none"> •Supplying the form of reflection note and the evaluation •Beam project 	<ul style="list-style-type: none"> •Final production

And the final draft of storytelling based learning model is shown in <Figure 3> .



<Figure 3> The final draft of storytelling based learning model

IV. Conclusion and Discussion

This research developed a storytelling based learning model for learners. For this, this research devised the storytelling based learning model and we corrected and supplemented the first draft model through formative evaluation, then, applied the modified model into the course and drew out the strong points and weak points of the model and finally elicited the final model. The conclusion based on the result of the research is like the following.

First, there are advantages of team learning and storytelling. The learner in the team can interact effectively. And advantages of team learning are using this model, we can become proactive and productive learners as we progress through the program. This research supports the research of Lee and Jung (2008), who insisted that learners could enhance participation in the course as learners themselves participate in the work of planning and producing the videos by themselves and reflecting in various ways. Also, advantages of storytelling in this research revealed that the usage of storytelling for students in the university enhance the acquisition of various information, and the usability and usefulness of the information (Kang, Kim, 2009). Therefore, the experience of storytelling is very important for learners, and a synergy effect can take place in the organization when the individuals are well-organized and integrated within the team.

Secondly, the learners could have the opportunity of collaboration for team organization as they joined the process of assigning the tasks, creating the results in many ways, and posting them on the SNS. And these activities emphasize interactive collaboration, so the learners could work on the task more actively as they were criticizing, reflecting, analysis, and collaborating at work. At the same time, the storytelling instructional could increase learners' understanding of curricular content and improve their technical, collaboration and communication skills as they engage in long-term storytelling projects. Many learners observed that helped each other out as they learned to develop their story or solve a problem for their story and were more willing to work together on their projects. Overall, there were noted by learners were willing to transform their pedagogy and curriculum to include storytelling based learning model.

Thirdly, team learning environment was accessible for team assignment and learning activities as it is supplying the system for sharing and supporting the learning content, assignment and various information. A team learning environment could correct the direction of storytelling production through team discussion, so that it can reduce errors during the performance of tasks. Today, SNS is one of the main learning environments that makes communication and sharing available with no limitation of time and space, so it is needed to introduce how to use a social network system in a curriculum more actively.

Fourthly, it is required to have a video editing program at the pre stage to produce storytelling more effectively. This research supports the research of Kang (2007) and Heo

(2010), who pointed out the problem of the shortage of techniques for storytelling production. That is why learners felt difficulties in establishing educational objectives and contents through the work of storytelling. Therefore, for the effective use of storytelling, the training of making storytelling such as storytelling shooting, producing and editing should be supplied at the pre stage.

As a result, this study provides an storytelling in creativity improvement and how the medium can be integrated into the curriculum. Some cases were discussed to help educators understand how storytelling can be used in instructional settings. Overall, storytelling is a valuable learning tool and plays an important role in education, and thus should not only be considered as a multimedia element separate from the actual teaching and learning processes. Teacher educators are discovering that storytelling has the potential to become a valuable educational tool for learners when taught in an effective manner (Royer & Richards, 2007).

Activity in this model is centered on learners. However, the class does not consist solely of the activities of the students but also includes the teaching activities of the teachers. In this respect, it is necessary to discuss how the role of teachers in storytelling instructional is achieved. Macroscopic educational informants such as Papert (1980, 1996a, 1996b) and Bates (1995) have taken the position that technology and tools are difficult to exist at the same time as existing school system or teacher-centered instructional. In other words, the development of technology means that the role of teacher is reduced by that much. According to previous research results, the use of storytelling improves the creativity and reduces the role of teachers. If so, does the teacher's teaching activity diminish, or does the teacher's role differ from teaching what is taught? It is necessary to discuss whether it changes into know-how, know-where, know-who (Lee, Kang, Oh, & Lee, 2011). These discussions are expected to be highly implicated in the changing roles of teachers in the future as technology develops in relation to education.

For Further research, proposal was suggested like the following.

Firstly, this research was executed only for the students in the department of early childhood education, so there might be a different result if this model was applied in other departments. So it is required to apply this model in the course of other departments and examine the effect and possibility of the model. Secondly, this research analyzed the data focusing on the positive and negative responses on the recognition of learners on team competency through field application. Therefore, experimental research on the effectiveness of storytelling development should be examined.

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Authors

Kang, Mun-Suk

International University of Korea
storytelling@iuk.ac.kr