

## A Study on Development of Group Dynamics-based Debate Instructional Model Using a New Technology\*

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The purpose of this study was to develop an instructional model using new technologies aiming to secure students' learnability and to enhance the public school values in the rural districts. The present study attempts to suggest a practical e-learning instructional and learning model named 'Group Dynamics-based Debate Instructional Model', which utilizes unique technology environment conditions in most. To develop the model, concepts of group dynamics and debate-based instructional models were reviewed. And in-service teachers in two public schools in a certain rural district were interviewed in order to collect and analyze their needs for a teaching and learning model with which they utilizes unique technology conditions as environment in most. Based on literature review and the need analysis, a group dynamics-based debate instructional model has been suggested in terms of conceptual model. And then expert assessment composing of five in-service teachers from the model schools was implemented twice in order to acquire the suggested model validation, followed by the model validation by a group of experts. Then a revised group dynamics-based debate instructional model has been finally suggested. The group dynamics-based debate instructional model is expected to build up members' affective connection in the process, to generate group value, or collective intelligence, and to establish positive discussion culture. Furthermore, beyond of just utilizing the existing materials, learners are encouraged to develop and collect their own materials and data such as expert's interview, or public news for their argument or refutation. In doing so, learners enhance their learnability as well as accountability, prompting self-directed learning, and establishing appropriate discussion culture resulting in positive learning outcomes.

*Key words : Group dynamics, Debate instruction, Fastel, Electronic Board, Tablet PC*

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## Introduction

As an attempt to enhance the public school values and to secure students' learnerbility, 'models of rural public school'- a recent, government-driven strategic educational agenda has been studied targeting the public schools in rural districts of agricultural, mountain and fishing villages (Ministry of Education, Science, and Technology, 2010). To do this, educational environment conditions in the rural districts need to improve, and thus educational support system, educational media on the cutting edge of new technology such as Tablets, personal computers, electronic board, diverse instructional support softwares and distance educational solutions have been established. This educational support system enables up to dated e-Learning classroom for students to acquire various and certified educational materials by using Tablet PC, to do teacher-student, student-student interaction, and to check immediate feedback using online Portal freed from time, place and space limitation. However, 'rural public school' has been focused on establishing infra-structure and ICT, which depends on just individual teachers technology skills and teaching ability, and the differential technology conditions failed to be utilized as much as it can. To address the needs, appropriate instructional design and its implementation featuring the new educational media environment the rural public school prepare in recent time.

The present study attempts to suggest a practical e-learning instructional and learning model named Group Dynamics-based Debate Instructional Model, which utilizes those unique technology environment conditions in most. The group dynamics-based debate instructional model focuses on communications and instructions among students using cognitive conflicts which occur in certain situations, building up sense of community, sharing positive discussion atmosphere, and encouraging one another through feedbacks. A debate, discussion learning which brings about some tensions in facing conflictive situations expects to build up affective connections and cooperation and establish a positive debate atmosphere as well as collective intelligence value whose significance relates to

group dynamics.

In a debate, discussion learning, learners experience dynamics which relates to debate atmosphere, sharing and creating opinions, discussants' attitude, external influence. Just as magnetic field or electricity where different factors interact, in a group dynamics debate or discussion, each participants individual and group dynamics occur and interact, and thus it reflect to discussion atmosphere and discussion-learning outcomes. This educational strategy aiming to support learners dynamics is the core value of utilizing technology on the cutting edge that have been supplied to public schools in rural districts. Electric Board, in particular, provides grounds and sources like experts' interviews and comments, or public news materials, which support discussants' arguments and refutation. And it also enables for learners who don't participate in the discussion to participate in the discussion by posting their opinion or comment using Tablet PC.

This student-centered, group dynamics-based debate instructional model utilizing new technology that public schools retain expects to enhance learner's accountability, to prompt self-directed learning, and to build up positive discussion culture in terms of learning effectiveness.

## **Theoretical Background**

### **Concept of Group Dynamics and Process of the Debate Instruction**

Group dynamics refers to dynamics or interpersonal power that affects each individual member in a group (Lewin, 1935). Group dynamics premises that complex social procedures and processes influence strongly to members and that a group is not weak but strong, passive but active, static but flexible, and figurative but catalytic (Kwak, 1998). According to Lewin (1935), a group is not just a total number of members. It also creates power through relationship and interaction

between members. Therefore, group dynamics is a field that tries to change something on dynamics in a group. This dynamics can happen at teaching and learning situation. If the principle that dynamic power in a group affects each member is applied properly, learning will be more effective.

In a group dynamics-based debate, one can expect highly interactive and creative learning effect. As dynamic debate is proceeded in the group, learners can use their intellectuals through working together or competition. So, in a group dynamics-based debate instructional model, one can experience a process of drawing a conclusion through collective or group genius beyond each individual learner's intelligence.

In this model, digital information technologies allow learners to participate actively in a planning with group intelligence (Levy, 2002). In doing so, learners are able to develop and create materials by themselves based on those experiences in the contexts, such as in the format of producing public news, experts' interviews, or some visual films. It is significant to utilize those existing media resources; however, this model focuses on data and materials developed by learners themselves in order to support their arguments and confutation. In this process, digital information technology provides strong grounds for dynamic group intelligence.

Group dynamics-based debate learning is an instructional model that requires learners' active involvement. A group dynamics-based debate deals with dilemmas and in the process of the learning, learners usually encounter some counter-opinions against their own and feel cognitive conflicts. In involving in the discussion, learners are expected to grow intellectually and affectively by accepting different viewpoints. By analyzing strong and weak points of each opinion, learners experience conflicts and the ways to cope with them in a rational manner, learn critical ways to think including creative thinking, as well as to negotiate and dispute with.

Discussion-based learning has been studied and suggested various steps and procedures. Bayers' model suggested steps are Give task of value conflict, Classify

Activity, Organize small group for debate, Perform debate and Close debate; Galbraith and Jones' includes Give a dilemma, State one's opinion, Investigate reason, and Reconsider one's opinion. <Table 1> reviews steps suggested in the instructional models of Beyer's (1987), Galbraith and Jones' (1976), Arbuthnot and Faust(1981).

Table 1. Style of Debate Instruction's Process

| Category | Beyer's Debate Instructional Model   | Galbraith & Jones's Debate Instructional Model  | Arbuthnot & Faust's Debate Instructional Model  |
|----------|--|---|---|
| Stage    | <ol style="list-style-type: none"> <li>1) Give task of value conflict</li> <li>2) Classify Activity</li> <li>3) Organize small group for debate</li> <li>4) Perform debate</li> <li>5) Close debate</li> </ol> | <ol style="list-style-type: none"> <li>1) Give a dilemma</li> <li>2) State one's opinion</li> <li>3) Investigate reason</li> <li>4) Reconsider one's opinion</li> </ol> | <ol style="list-style-type: none"> <li>1) Build small group</li> <li>2) Preparation and selection a dilemma</li> <li>3) Make mood for debate</li> <li>4) Perform debate</li> <li>5) Give debate guideline and +1step debate</li> <li>6) Close debate</li> </ol> |
| Feature  | Flexibly small group management  | <ul style="list-style-type: none"> <li>- Give a opportunity to change one's opinion</li> <li>- Do not preparation step</li> </ul>                                       | <ul style="list-style-type: none"> <li>-Focus on +1step debate</li> <li>-Divide preparation process and instruction process</li> </ul>  |

### Properties of New technology (Fastel, Electronic Board, Tablet PC) for Teaching and Learning

New technologies, which provide for enhancing education competitiveness of the rural school are Fastel(<http://www.fastel.kr>) as a Support System for Teaching and Learning, Electronic board, Tablet Personal Computers.

First, Fastel is a support system for teaching and learning as an e-Learning space for teacher and learner to improve learning opportunity in the rural public schools. It is linked between classroom and a home, support divers interaction by delivery knowledge based on motivation, and high quality contents. For that reason, Fastel reduce teacher's affairs for research learning materials and support systemic teaching preparations and practice(Center for Teaching Learning of the Rural Public School, 2010). Teaching Strategy and main function of Fastel is as <Table 2>

Table 2. Teaching Strategy and main function of Fastel as a Support System for Teaching and Learning

| Strategy  | Explain   | Main Function   |
|---|---|---|
| Support Learning Space                            | <ul style="list-style-type: none"> <li>• Use classroom and Learning support at home</li> </ul>  | <ul style="list-style-type: none"> <li>• Widget Bank for learning(quiz, discussion, assignment, evaluation, etc)</li> <li>• Synchronous Messenger</li> </ul>                            |
| Link Instructional and Learning Activity          | <ul style="list-style-type: none"> <li>• Support Instruction, preparation of teaching, practice of teaching, management of learners</li> <li>• Authoring tolls for support contextualize resources</li> </ul> | <ul style="list-style-type: none"> <li>• Management &amp; Share of learning packages</li> <li>• Authoring tool</li> <li>• Widget Bank for learning</li> <li>• Searching tool</li> </ul> |
| Give tools for facilitating teaching and learning | <ul style="list-style-type: none"> <li>• Delivery learning messages for class,</li> <li>• Give widget for arousing interest and interaction</li> </ul>  | <ul style="list-style-type: none"> <li>• Interactive quiz</li> <li>• Helper present</li> <li>• Timer</li> <li>• Distance control</li> <li>• Share computer screens</li> </ul>           |
| Promote individualization and interest            | <ul style="list-style-type: none"> <li>• PC based learning</li> <li>• Optimized electronic board, RIA based User Interface &amp; Userability</li> </ul>   | <ul style="list-style-type: none"> <li>• Fastel's note(AIR based CS program)</li> </ul>   |

Second, electronic board is a digital device that interacts between computer and screen. Screen of electronic board is a flat like TV screen, but it has not only a

function of touch screen to present information of PC by a hand but also write directly on the screen(Park, 2006). Furthermore, teacher focuses on the teaching process with learners and improves interaction among learners because he or she doesn't need turn their back to operate computer. In this way, electronic board becomes a channel of communication for teaching and learning.

And last, Tablet Personal Computer(hereby to "TPC") is a multimedia device that can easily use digital textbook like a digital contents by means of electronic pen or touch technology. Also, it enables easy-reading, looking, listening digital contents by connecting wired or wireless network. TPC provides individualized learning that learners operate TPC without difficulty by using electronic pen or hands. This TPC has a characteristic of mobile learning as follow; mobility of learning space, accessibility and urgency of approach resources, interactivity among multimedia, and authenticity of learning activity(Lee, 2005). Learning effectiveness of TPC is as <Table 3>

Table 3. learning effectiveness of TPC

| learner & teacher | Learning effect   |
|-------------------|---|
| Learner           | <ul style="list-style-type: none"> <li>• Increase learning time</li> <li>• Variety learning method</li> <li>• Improve ICT literacy</li> <li>• Control of learning progress and level</li> <li>• Support self-directed learning</li> </ul> |
|                   | <ul style="list-style-type: none"> <li>• Arouse learning interest</li> <li>• Increase expectation of achievement</li> <li>• Increase satisfy</li> <li>• Fluently using computer</li> </ul>  |
| Teacher           | <ul style="list-style-type: none"> <li>• Recognize learning effectiveness of TPC</li> <li>• Change a role of teacher as facilitator</li> <li>• Improve teaching skill</li> </ul>  |
|                   | <ul style="list-style-type: none"> <li>• Recognize changed teaching environment</li> </ul>  |
|                   | <ul style="list-style-type: none"> <li>• Perceive possibility of TPC</li> <li>• Need to improve ICT literacy</li> </ul>   |

## Research Method

In this present study, a practical e-Learning model of teaching and learning targeting the public schools in rural districts has been developed based on developmental research methodology and verified its validation. A developmental research is to design, develop and evaluate an instructional program, course and its outcomes according to its internal consistency and effectiveness (Seels & Richey, 1994). A developmental research classifies into two types, Type I and Type II based on research findings of generalization and unique features. Type I means it suggests specific and context-based results; and Type II suggest general findings. In this context, the present study falls into Type II since it aims to develop a group dynamics-based debate instructional model targeting those public schools in rural districts, and to generalize its effectiveness, and it implement professionals and experts model validation (Richey, Klein, & Nelson, 2004).

The involved research processes are as follows:

- i) To develop a suggested model targeting public schools in rural districts, concepts of group dynamics and debate instructional models were reviewed.
- ii) In-service teachers in two public schools in a certain rural district were interviewed to collect and analyze some needs for teaching and learning model.
- iii) Based on literature review and need analysis, a group dynamics-based debate instructional model has been suggested in terms of conceptual model.
- iv) Expert assessment composing of five in-service teachers from the model schools was implemented twice in order to acquire the suggested model validation. Through a thorough review of the comments and assessment feedback, the suggested model has been revised and modified.
- v) The modified model was verified and validated by expert assessment composing of three doctor-degree holders in educational technology.
- vi) A revised group dynamics-based debate instructional model has been finally suggested.

[Figure 1] describes details involved in the research.

| Process  | Sub activities   |
|--|--|
| Literature review  | Concept of group dynamic<br>Process of group dynamic based debate instruction<br>Properties of New technology (Fastel, Electronic Board, Tablet PC) for Teaching and Learning  |
| Needs analysis of teachers in the rural schools                  | Visit rural schools<br>Analysis the actual conditions of new technology in the rural school<br>Interview teachers of rural school what they needs e-Learning instructional model   |
| Develop a group dynamic based debate instructional model         | Prototype development of group dynamic based debate instructional model for the rural school<br>- Preparation activity for group dynamic based debate instruction<br>- Practice for group dynamic based debate instruction |
| Teachers deliberation  | Deliberate developed instructional model by teachers of the rural school<br>- pre-meeting → deliberate instructional model by teachers<br>→ revise instructional model   |
| Expert deliberation  | Deliberate revised instructional model by 3 experts who are educational technologist   |
| Finally suggest a group dynamic based debate instructional model | Suggest final revised group dynamic based debate instructional model using new technology for the rural school   |

Figure 1. Research Procedure

## Group Dynamics-based Debate Instructional Model

The group dynamics-based debate instructional model applies with concept of group dynamics in a general debate-based discussion model, and shows different features from discussion-based learning. Learners center on communication and interactions, build-up their affective connection and cooperation, share group discussion culture, encourages one another with their feedback and experience the synergy-achieving.

The group dynamics-based debate instructional model is expected to build up members' affective connection in the process, to generate group value, or collective intelligence, and to establish positive discussion culture. Furthermore, beyond of just utilizing the existing materials, learners are encouraged to develop and collect their own materials and data such as expert's interview, or public news for their argument or refutation. In doing so, learners enhance their learnability and accountability, prompting self-directed learning, and establishing appropriate discussion culture resulting in positive learning outcomes. The Model categorized two phases: Class-Preparation and Class-Implementation. Class-Preparation involves Preparation for teaching, Preparation for learning, Preparation for learning environment, and Class-Implementing involves Debate procedure Guideline, Theme-selection, Individual Pre-Debate, Group Debate of Argument, Evaluation and Reflection.

### Preparation for Instruction

| Step                     | Teaching and learning activities   | Using a media strategy   |
|--------------------------|--|--|
| Preparation for teaching | <ul style="list-style-type: none"> <li>▪Deducting tasks for group dynamics argumentative discussion through analyzing instructional process</li> <li>▪Establishing teaching and</li> </ul> | <ul style="list-style-type: none"> <li>▪[F] Suggesting representative information for group dynamics argumentative discussion in online(internet site, related material), group</li> </ul> |

|                                      |  |  |
|--------------------------------------|--|--|
|                                      | learning plan<br>▪Writing group dynamics argumentation guidance<br>▪Suggesting information for group dynamics argumentation in online                              | dynamics argumentation guidance  |
| Preparation for learning             | ▪Developing online teaching and learning environment for group dynamics argumentative discussion   | ▪[F] Developing online teaching and learning environment for performing group dynamics argumentative discussion                      |
|                                      | ◦Pre-learning for group dynamics argumentative discussion model  | ◦[F] Pre-learning group dynamics argumentative discussion guidance   |
| Preparation for learning environment | ▪Constructing online and off-line teaching and learning environment for group dynamics argumentative discussion<br>▪ Checking electronic board and other equipment | ▪[F] Establishing online community and e-bulletin board<br>▪[F]Establishing teaching and learning material(quiz, poll, other boards) |
|                                      | ◦Confirming online and off-line teaching and learning environment for group dynamics argumentative discussion(quiz, poll, other boards)                            | ◦[T-F] Test of online environment  |

▪= teacher's activity  
 ◦= learner's activity

F = Fastel, online portal system for the rural school  
 T = Tablet Personal Computer  
 E-B = Electronic Board

**Preparation for teaching**

In this phase, teachers prepare learning tasks which are appropriate to group dynamics-based debate, followed by instructional planning, and preparing debate based learning instructions. This instruction will guide and direct for learners to

acquire how to actively involve in a discussion including all the references to refer to. Some major information relating to the discussion needs to post as well as experts' probate-based learning guidelines.

**Preparation for learning**

In this step, pre-learning activities are needed for the model and online learning and teaching conditions need to check. With Fastel online debate needs to implement and teachers needs to check out debate-based learning guidelines beforehand.

**Preparation for learning environment**

In this step, it needs to create teaching and learning environment online as well as offline for the debate, and to check out electronic Board and other device. Teachers need to prepare teaching and learning materials to implement online community, quiz, and voting by utilizing Fastel.

**Practice for Group Dynamics-Based Debate Instruction**

| Procedure   | Step  | Teacher and learner's activities   | Using media strategy  |
|---|---|--|---|
| <b>Guiding debate procedure and Selecting the theme</b> | Attention and presenting a learning goal          | <ul style="list-style-type: none"> <li>▪Facilitating motivation</li> <li>◦Confirming a learning goal</li> </ul>  | <ul style="list-style-type: none"> <li>▪[E-B] Presenting a learning goal using various multi-media</li> <li>◦[T] Confirming and checking a learning goal</li> </ul> |
|   | Guiding procedure for group dynamics-based debate | <ul style="list-style-type: none"> <li>▪Guiding learning procedures and methods for group dynamics base debate</li> <li>▪Guiding evaluation</li> </ul> | <ul style="list-style-type: none"> <li>▪[E-B] Loading a guidance book for group dynamics-based debate in online board<br/>(Guiding instructors' roles</li> </ul>    |

|  |   |  |  |
|--|---|--|--|
|  | instruction                               | <p>criteria for group dynamics-based debate</p> <ul style="list-style-type: none"> <li>◦Confirming learning procedures and methods for group dynamics-based debate</li> <li>◦Confirming evaluation criteria for group dynamics-based debate</li> </ul> | <p>by stages)</p> <ul style="list-style-type: none"> <li>◦[T] Confirming a guidance book for group dynamics-based debate</li> </ul>  |
|  | Selecting and presenting the debate theme | <ul style="list-style-type: none"> <li>▪Selecting and presenting the debate theme(based on course of study)</li> <li>▪Selecting themes and tasks from the learners choices(related with course of study)</li> </ul>                                    | <ul style="list-style-type: none"> <li>▪[E-B] Presenting themes of group dynamics-based debate, considering subject's characteristics and contents</li> </ul>                                      |
|  |   | <ul style="list-style-type: none"> <li>◦Recognizing themes of group dynamics-based debate</li> </ul>   |  |
|  | Selecting debate rules and methods        | <ul style="list-style-type: none"> <li>▪Coaching debate rules and methods</li> </ul>   | <ul style="list-style-type: none"> <li>▪[T-F] Coaching debate rules and methods and roles of debater and analyst by e-bulletin board and instant messenger</li> </ul>                              |
|  |   | <ul style="list-style-type: none"> <li>◦Presenting debate rules and methods</li> <li>◦Sharing roles of debater and analyst</li> </ul>  | <ul style="list-style-type: none"> <li>▪[T-F] Selecting debate rules and methods, using instant messenger</li> <li>▪[T-F] Sharing roles of debater and analyst, using instant messenger</li> </ul> |

|                            |                           |  |  |
|----------------------------|---------------------------|--|--|
| ↓                          |                           |  |  |
| <b>Personal pre-debate</b> | Sharing a point of issues | <ul style="list-style-type: none"> <li>▪Giving a feedback about students' opinions</li> </ul>  | <ul style="list-style-type: none"> <li>▪[E-B] Facilitating learners' thinking by various multi-media</li> <li>▪[E-B] Guiding usage of personal blog</li> <li>▪[T] Establishing personal blog</li> <li>▪[T] Suggesting related materials for debate</li> <li>▪Giving a feedback about students' opinions</li> </ul> |
|                            |                           | <ul style="list-style-type: none"> <li>◦Sharing and recognizing a key issue</li> <li>◦Creating and presenting personal opinion</li> </ul>  | <ul style="list-style-type: none"> <li>◦[T] Loading personal learning plan on blog</li> <li>◦[T] Loading personal thought and opinion</li> <li>◦[T] Loading feedback about other learners' opinion on blog</li> </ul>  |
|                            | Constructing teams        | <ul style="list-style-type: none"> <li>▪Forming teams by task quality</li> <li>▪Establishing and suggesting online community and board</li> <li>▪Coaching team building activities</li> </ul>  | <ul style="list-style-type: none"> <li>▪[F] Coaching team building activities</li> <li>▪ [E-B&amp;P] Tools for instructional support(organizing into groups by messenger)</li> </ul>   |
|                            |                           | <ul style="list-style-type: none"> <li>◦Performing team building activities (self-introduction, deciding a leader, team name, team value, and rules)</li> <li>◦Function sharing of argumentative discussion team(debater and analyst)</li> </ul> | <ul style="list-style-type: none"> <li>◦[T] Part sharing in a discussion team using instant messenger</li> <li>◦[T] Recognizing each member's role in a team</li> <li>◦[T] Loading activities of team building in online board</li> </ul>  |

|                                  |                                     |  |   |
|----------------------------------|-------------------------------------|--|---|
|                                  | Collecting and developing resources | <ul style="list-style-type: none"> <li>▪ Suggesting resources and feedback for developing grounds</li> </ul>   | <ul style="list-style-type: none"> <li>▪ [T] Suggesting resources and feedback (Guiding site and feedback for developing grounds)</li> </ul>  |
| ↓                                |                                     | <ul style="list-style-type: none"> <li>◦ Developing primary and secondary grounds</li> </ul>   | <ul style="list-style-type: none"> <li>◦ [T] Developing primary and secondary grounds (e.g. interview of specialists, broadcasting, news, surveys)</li> </ul>   |
| <b>Debate of the whole class</b> | Confirming procedures and voting    | <ul style="list-style-type: none"> <li>▪ Guiding group dynamics-based debate procedure</li> </ul>  | <ul style="list-style-type: none"> <li>▪ [E-B&amp;F] Presenting voting of audience</li> <li>▪ [T] Recording instantly discussion procedure and activities (with presenting debaters on screen)</li> </ul>                             |
|                                  |                                     | <ul style="list-style-type: none"> <li>◦ Confirming debate procedure by chairman</li> <li>◦ Conducting voting of audience</li> </ul>                           | <ul style="list-style-type: none"> <li>◦ [T] Sharing idea and giving feedback on team bulletin board</li> </ul>   |
|                                  | Presenting opinions (pros and cons) | <ul style="list-style-type: none"> <li>▪ Supporting presentation of opinion (pros and cons)</li> </ul>   | <ul style="list-style-type: none"> <li>▪ [E-B&amp;P] Presenting opinions of audience</li> <li>▪ [T] Recording instantly debate procedure and feedback (with presenting debaters on screen)</li> </ul>                                 |
|                                  |                                     | <ul style="list-style-type: none"> <li>◦ Presenting opinions (pros) by the first debater</li> <li>◦ Presenting opinions (cons) by the first debater</li> </ul> | <ul style="list-style-type: none"> <li>◦ [F] Presenting opinions and argumentative contents</li> <li>◦ [E-B&amp;F] Presenting grounds by showing specialists' opinions (e.g. interview of specialists, broadcasting, news,</li> </ul> |

|  |                  |  |   |
|--|------------------|--|---|
|  |                  |  | <p>surveys)</p> <ul style="list-style-type: none"> <li>◦[E-B&amp;F] Presenting and sharing opinions of audience (online and off-line)</li> </ul>  |
|  | The first debate | <ul style="list-style-type: none"> <li>▪Supporting the first debate such as presenting audiences' opinions and recording debate procedure</li> </ul>   | <ul style="list-style-type: none"> <li>▪[E-B&amp;F] Presenting opinions of audience instantly</li> <li>▪[T] Recording discussion procedure and feedback instantly (with presenting debaters on screen)</li> </ul>   |
|  |                  | <ul style="list-style-type: none"> <li>◦The first approval</li> <li>-The second Supporter: Presenting opinions about the theme</li> <li>-Analyst: Analyzing opinions of objector's and presenting new opinions</li> <li>-Audiences: Presenting opinions and feedback in online</li> <li>◦The first objection</li> <li>-The second objector: Presenting opinions about the theme</li> <li>-Analyst: Analyzing opinions of objector's and presenting new opinions</li> <li>-Audiences: Presenting opinions and feedback in online</li> <li>◦Deliberation</li> <li>-Analyzing opinions</li> </ul> | <ul style="list-style-type: none"> <li>◦[F] Presenting approval and opposition opinions</li> <li>◦[e-B&amp;F] Presenting grounds by showing specialists' opinions (e.g. interview of specialists, broadcasting, news, surveys)</li> <li>◦[E-B&amp;F] Presenting and sharing opinions of audience (online and off-line)</li> </ul> |

|  |                   |   |   |
|--|-------------------|---|---|
|  |                   | and contents of other side for reconstructing strategy  |   |
|  | The second debate | <ul style="list-style-type: none"> <li>▪Supporting the second debate such as presenting audiences' opinions and recording debate procedure</li> </ul> <ul style="list-style-type: none"> <li>◦The second approval</li> <li>-The third Supporter: Presenting opinions about the theme</li> <li>-Analyst: Analyzing opinions of objector's and presenting new opinions</li> <li>-Audiences: Presenting opinions and feedback in online</li> <li>◦The second objection</li> <li>-The third objector: Presenting opinions about the theme</li> <li>-Analyst: Analyzing opinions of objector's and presenting new opinions</li> <li>-Audiences: Presenting opinions and feedback in online</li> <li>◦Deliberation</li> <li>-Analyzing opinions and contents of other side for reconstructing strategy</li> </ul> | <ul style="list-style-type: none"> <li>▪[E-B&amp;F] Presenting and sharing opinions of audience instantly</li> <li>▪[T] Recording instantly discussion procedure and feedback (with presenting debaters on screen)</li> </ul> <ul style="list-style-type: none"> <li>◦[F] Presenting approval and opposition opinions</li> <li>◦[e-b&amp;F] Presenting grounds by showing specialists' opinions (e.g. interview of specialists, broadcasting, news, surveys)</li> <li>◦[e-b&amp;F] Presenting and sharing opinions of audience (online and off-line)</li> </ul> |

|  |                               |  |   |
|--|-------------------------------|--|---|
|  | The final positioning         | <ul style="list-style-type: none"> <li>▪Supporting the final positioning considering opinions of audiences</li> </ul>  | <ul style="list-style-type: none"> <li>▪[E-B&amp;F] Presenting and sharing opinions of audience instantly</li> <li>▪[T] Recording instantly discussion procedure and feedback (with presenting debaters on screen)</li> </ul>   |
|  |                               | <ul style="list-style-type: none"> <li>◦Presenting opinions and contents of debate</li> </ul>  | <ul style="list-style-type: none"> <li>◦[E-B&amp;F] Presenting grounds by showing specialists' opinions (e.g. interview of specialists, broadcasting, news, surveys)</li> <li>◦[E-B&amp;F] Presenting and sharing opinions of audience (online and off-line)</li> </ul> |
|  | Q&A for the final positioning | <ul style="list-style-type: none"> <li>▪Supporting the confirmation and choice of final positioning</li> <li>-Presenting and sharing opinions of audience</li> <li>-Recording debate procedure and feedback</li> </ul> | <ul style="list-style-type: none"> <li>▪[E-B&amp;F] Presenting and sharing opinions of audience instantly</li> <li>▪[T] Recording instantly discussion procedure and feedback (with presenting debaters on screen)</li> </ul>   |
|  |                               | <ul style="list-style-type: none"> <li>◦Strategic answering to the questions between debaters and audiences</li> <li>▪Voting and confirming the position of audiences</li> </ul>                                       | <ul style="list-style-type: none"> <li>◦[T] Presenting and sharing opinions of audience</li> <li>◦[T] Debaters' strategic answering to the questions of audiences</li> </ul>  |

|                                  |  |  |  |
|----------------------------------|--|--|--|
| ↓                                |  |  |  |
| <b>Evaluation and Reflection</b> | Sharing the result of discussion               | <ul style="list-style-type: none"> <li>▪Sharing the contents and procedures of discussion and suggesting feedback by teams</li> </ul>                                      | <ul style="list-style-type: none"> <li>▪[P] Giving a feedback by teams</li> </ul>  |
|                                  |  | <ul style="list-style-type: none"> <li>◦Sharing the contents and procedures of by teams and the whole class</li> </ul>   | <ul style="list-style-type: none"> <li>◦[T] Sharing the whole members' discussion</li> </ul>   |
|                                  | Evaluation of process and result of discussion | <ul style="list-style-type: none"> <li>▪Guiding how to create team diary and e-portfolio</li> </ul>  | <ul style="list-style-type: none"> <li>▪[T] Using recorded video</li> <li>▪[T] Providing team diary</li> <li>▪[T] Supporting the environment for e-portfolio</li> </ul>  |
|                                  |  | <ul style="list-style-type: none"> <li>◦Evaluation of process of discussion through team diary</li> <li>◦Evaluation of result of discussion through e-portfolio</li> </ul> | <ul style="list-style-type: none"> <li>◦[T] Validating discussion process</li> <li>◦[T-F] Using evaluation tools (performing evaluation of peers and teams)</li> <li>◦[T-F] Writing team diary and establishing e-portfolio</li> </ul> |
|                                  | Reflection                                     | <ul style="list-style-type: none"> <li>▪Guiding how to write the reflection papers</li> </ul>  | <ul style="list-style-type: none"> <li>▪[T-F] Guideline of reflection paper</li> </ul>   |
|                                  |  | <ul style="list-style-type: none"> <li>◦Reflecting debate process and designing further plans</li> </ul>   | <ul style="list-style-type: none"> <li>◦[T-F] Writing reflection paper</li> </ul>  |

Class-Implementation in a group dynamics-based debate model involves Debate procedure Guideline, Theme-selection, Individual Pre-Debate, Group Debate of Argument, Evaluation and Reflection.

## Debate procedure Guideline and Theme-Selecting

This phases involved in attention-arousing, learning goal-presenting, debate procedure guideline, theme-selecting and presenting, debate style and regulations selecting.

### **Attention and presenting a learning goal**

In this phase, it needs to enhance learning motivation and to check the learning goal. At this point, teachers need to clarify learning goals by presenting the goal by using various multi-media.

### **Guiding procedure for group dynamics-based debate instruction**

In guiding procedure for the debate, learning process and steps for the model needs to check, and evaluation criteria need to prepare. In the beginning of implementing group dynamics-based debate instructional model, unfamiliarity to the model procedure tends to obstacle the smooth running, so manuals or guidelines for the model needs to prepare and distributed for prerequisite phase. Printed matter or online guidelines will do for desired instructional behaviors.

### **Selecting and presenting the debate theme**

Debate theme including tasks needs to select based on school curriculum. In this model, teams for pros and cons are to divided, so some situations of dilemma which presents pros and cons distinctively are appropriate. At this point, learners register the selected topic to the online bulletin-board and select the final things by using 'vote' function. In the step of theme-selection, learners do brainstorming, select their own theme in a self-directive manner, involve in debate process through elaborating to set up for debate in an appropriate manner.

### **Selecting debate rules and methods**

In this step, roles for speakers and analysts are to be set including some rules and

regulations. Learners share these roles and rules through messengers and online bulletin-board Speakers as representatives of each group are to speak for group opinions, and analysts are to collect and generate grounds and sources for the opinions in order to support or refute.

### **Individual pre-debate**

In this phase, learners are to share the argumentation-points of issues, compose speakers, collect and generate source and data.

#### **Sharing a point of issues**

In this phase, teachers are to prompt learners' idea by using multimedia, and help them to review and generate their own points of issue. This Model focuses on learners' involvement in such as presenting their own creative opinion, its grounds and data for the arguments, teachers need to actively prompt learners opinion. Debate like in this model requires learners logical thinking in a reasonable manner, as well as critical thinking, and this is needed at the step of 'sharing a point of issues'.

#### **Constructing teams**

Based on tasks, team can be constructed with activities such as self-introduction, team leader voting, team naming, rules and regulations for team management and role-taking for speakers and analysts. Teachers can coach learners' team building using learning support system, for instance using Messenger or Fastel. Roles for speakers and analysts are taken and clear instruction for each roles need to understand.

#### **Collecting and developing sources**

In this step, for arguments two types of data need to generate: the first data and the second. The first data refers to materials that learners experience and develop at

the field such as public news materials or experts interview. The second data refers to those existing materials or sources that are available from Internet or printed matters. The group dynamics-based debate instructional model centers on learners thinking in self-directive, logical and critical manners, thus to collect and develop grounds and sources for arguments. It is significant to generate or find logical grounds and data from the field of experience beyond of utilizing those existing materials in order to support or refute the arguments.

### **Group Debate Argumentation**

This phase categorizes into confirming procedures and voting, presenting opinions (pros and cons), The first debate, The second debate, The final positioning / Q&A for the final positioning, and Evaluation and Reflection.

#### **Confirming procedures and voting**

This step involves that chair confirms the procedures of debate and audience vote their own opinions of pros and cons. Each and every procedure with immediate feedback need to record or video-tape, and speaker are able to watch the process. The process of debate is conducted in a dynamic manner with much of tension, not only learners as discussants but also learners as audience need to share the whole process by using electronic Board which is available to broadcast.

#### **Presenting opinions(pros and cons)**

In this step, the first speakers from each teams as a representative present their team opinion, which audience can watch the process trough Fastel or electronic Board. On presenting learner's opinion, the logical grounds or data such as interview-film, a round-table talk, or experts' data are able to be presented. Through Fastel and electronic Board, those presentations and data are to be shared simultaneously and continuously.

### **The first debate**

The first debate consists of three phases: argument for, and refutation against and consideration. In the first 'argument for', the second speaker from a team of "pros-argument for" argues while an analyst present team opinion based on the analysis on opponent's discussion, and messages from the audience, which have been posted and shared on Fastel and electronic Board. In fact, the debate features quite dynamic and active discussion atmosphere occurs. At this point, it is important for the teacher to support learners in sharing rich and sufficient feedback to prevent from decentralization. In the step of consideration, all the outcomes from discussion, opponents' arguments, feedback from the audience in order to renew strategies including reorganizing or up-to-dating logical grounds for clearer team opinions based on strong and weak points of the initial team opinion. This requires learners' critical thinking of analyzing the discussed points so far, and also logical thinking and immediate response for the upcoming debate.

### **The second debate**

The second debate consists of three phases: argument for, and refutation against and consideration and all the procedures are repetitively conducted just like those from the first debate.

### **The final positioning / Q&A for the final positioning**

In this final step, the forth speakers from each teams of 'argument for' and 'refute against' present the elaborated team opinion and after this, question and answer for the final positioning is followed. This involves reviewing questions and answers between speakers and the audience; representing an elaborated strategic point; and confirming the voting results from the audience. This step intends to prevent the learners from excluding from the discussants with the audience.

## Evaluation and Reflection

Evaluation and Reflection involves sharing the final results of the debate, evaluating the appropriate process and valid results, and educational in-reflection.

### **Sharing the result of discussion**

In sharing the result of the discussion, all the process and issues concerned of the both teams are to be shared. At this point the teacher provides evaluation feedback to each teams based on not only the quality of the discussion but also the discussion styles. Quite new or speedy process of the discussion may be burdensome to the learners.

### **Evaluation of process and result of discussion**

To conduct these evaluation and validation, e-portfolio and each team' discussion diary can be referred to. Since all the involved activities were video-taped, the teacher needs to check out this supportive environment for team diary, and e-Portfolio beforehand.

### **Reflection**

In the reflection phase, the whole process of discussion and planning afterward are to be built. Teachers explain how to keep an educational reflection note, and the learners think back the whole process of the discussion and prepare the planning for learning afterwards.

## **Conclusions**

The present study attempts to develop a group dynamics-based debate instructional model targeting public schools in rural districts in order to narrow

down the educational gap between city and the country, enhancing educational competitiveness in the public schools in rural districts, ensuring public education accountability. In order to guarantee the application to the real schools as well as educational effectiveness, some considerations are suggested as below:

First, pre-class education for learners is to be accustomed to new teaching and learning method as well as new media-utilization. Some important ability or competency suggested in the Model such as competency for ICT utilization, communication, and debate and collaborate needs to acquire or practice in previous.

Second, new, creative and various ways to utilize to apply with are needed. The Model suggested in the study means only a prototype, and thus the model needs to apply to in a different, creative and various manners. Learning itself is a situational context with full of dynamics, so some field-based methods need to customize to maximize the effectiveness.

Third, educational linkage between technology in cutting edge and the other educational media is to be needed. The suggested Model demands some strategies to connect with the existing educational media such as ICT use instructional models, Edunet, Cyber Home Learning System, Digital Textbooks, and IPTV on the purpose of enhancing educational application.

Finally, the key and fundamental factor for successful achievement of 'rural school' may depend on in-service teachers' and school authorities' efforts for the actual implementation and application to the real field.

As an effort to do this, the present study has been conducted, and its suggestions are expected to play basic and catalyst roles of setting up an e-Learning teaching and learning model, which utilize educational media and new technologies on cutting edge for rural public schools.

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