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Exploring E-Decision Making Competence through Online Self Determination Platform

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Abstract

Based on the self-determination theory, we can promote the learner self-determination ability to affect their learning achievement. This research is different than the traditional on-line platform designed; we used self-determination theory as a learning approach, and design the online platform for students' self-determination. According that, the online-self-determination platform has the characteristics, such as: having a learning path for self-determination, strengthening the sense of independence, providing a diagram for cognitive loading theory (CLT), promoting abilities of self-assessment, diagnosing learning situation, using online discussion and interaction to construct a social group.

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1. Introduction

As a result of information communication science and technology progress, learning levels have reached to a boarder content, learners' decision making and abilities to implement their informative professional skills is very important for nowadays. Enterprise's managerial talents need the professional faculty who is specialized for decision-making. Therefore, the most important goal of online education is to promote learners independent decision making in this fast changing information communication science and technology evolution.

Self-determination theory is gradually internalizing and conforming into one kind self-motivated or self-determination in action and value, and it will affect the students' learning achievement by promoting learners'

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abilities on self-determination. Therefore, this research is different than the traditional on-line platform designed; we used self-determination theory as a learning approach, and design the online platform for students' self-determination to promote students' ability into the positive learning achievement. For the future plans, we decide to implement situational questions, which can determine students' abilities of e-decision-making, into the platform, and exam students' e-determine abilities.

2. Literature Review

This research is going to discuss self-determine theory, the e-decision making competence, as following:

2.1. *Self-Determination Theory*

The self-determination theory is the organized by a motivation (Deci & Ryan, 1985) which emphasis:

1. The importance of human development and self regulation with human's inner resources;
2. The transfer progress of the non-inner motivation into self-determination;
3. The transfer progress of how the social environment gets influenced.

Deci and Ryan (1985, 1991, 2000) extended traditional motivation theory into inner and outer perspectives, which implement three psychological needs, such as, autonomy, competence, and relatedness. These three psychological needs emphasis the idea where human will use their self-determination to make different regulation. Motivation regulation is a continuous concept, which is from non- and outer- motivation transfer into the inner motivation. This progress represents our self determination level, which could affect our individual's behavior into a group's behaviors.

The internalized motivation refers to the progress of transferring non- and outer- motivation into inner motivation (Deci & Ryan, 2000). The internalized only happens when individual accept and transfer other different values and approach, and the individual can assimilate these differences into his/her own use (Ryan, Connell, & Grolnick, 1992). According to the level of internalized, it will turn to the different characteristic of behavior (Ryan, Connell, & Grolnick, 1992; D'Ailly, 2003). If we can apply self-determination theory into educational situation, it will emphasize the influences of individual's self-determination behavior from the social and environment content. Individual's self determination theory focus on the learner's inner resources to promote his/her motivation and enhance the learning achievement.

According to the self-determination theory, we can expect the inner motivation influence learners' continued positive behavior (Deci & Ryan, 1985). If we can satisfy individual's autonomy, competence, and relatedness, the fountain of self-determination will be continued through inner motivation and even outer motivation (Deci & Ryan, 1985).

If the three psychological needs can be satisfied, learners' self regulation will be enhanced, and it will cause learning positive outcomes. Otherwise, the teachers will need to control students' learning, control regulation will be enhanced, and it may cause the negative learning outcomes. Therefore, the research implements self-determination theory as learning approach in the online platform, and we wish to use this platform design to promote students' learning outcomes and their e-determine competences.

2.2. *E-decision making*

E-decision competences refers to have the critique thinking, the problem analysis and the solution, and students can make good use of the information, the e-system, technology or tool to assist decision-making ability. E-decision making competences include the ability of information processing and problem thinking, and the ability of problem thinking includes critique thinking and mental training.

To develop students' e-decision making in e-information technology environment, we can use context cognition technique to assist problem thinking and decision making (Weill & Ross, 2004; Clark, 2005; Albitz, 2007). The e-decision-making refers to the situation when the challenge comes, people will know how to think, how to use logic reasoning and manage all of the questions, and this can be used in e-information processing by definition, deposit, appraisal, management, conformity, innovation and communication. If this match user's mental training in the standardized work, we can see the best decision outcomes.

3. Method

This research is trying to develop self-determination online platform, and the situational questions, which implement in platform, are designed to evaluate e-decision making. In order to develop the indicators of e-decision making, the research use hermeneutics approach. Hermeneutics approach focus on the concept where researchers continue reasoning and constructing the important and reprehensive indicators (Hong, 1997).

However, the construction of e-decision-making indicators does not elaborate in this research category, this research focuses to conform "the self-determination theory" in the development of online platform designed.

4. SDT On-Line Learning Platform Construction

The purpose of developing SDT online learning platform is to evaluate learners' learning achievement on e-decision making. The content of this research platform is constructed by situational questions, which will guide learners to make correct decision from their information ability. The interface of this platform re based on the self-determination theory. Learners will use self-determination learning approach to promote their e-decision competences.

The self-determination on-line platform includes three big page functions: Learning Progressing Page, Research Managing page, and Systematic Page. The self-determination online learning platform construction shown as Fig. 1:

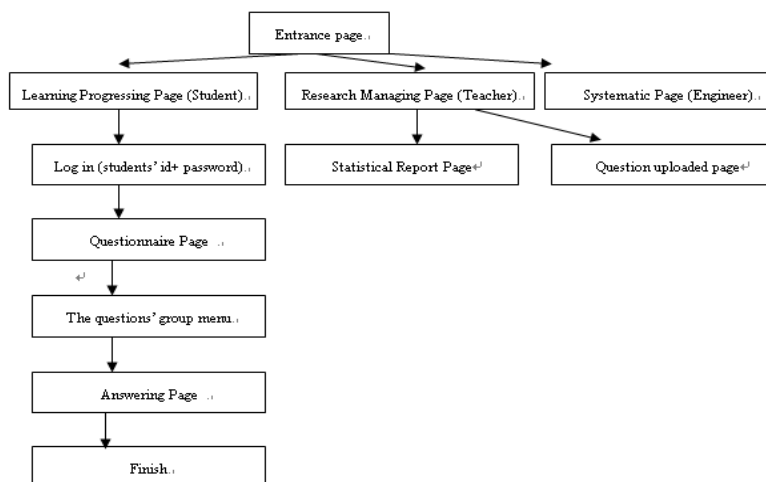


Fig.1 SDT on-line learning platform construction

5. Learning Progressing Page (Student).

The learners used their student number and the password to enter the system, and they will follow the steps to choose their questions to answers. All of the responds will be recorded in the system. The questions are based on situational context, learners will be given a situation question, and we expect learners will choose the way to solve the problems. Each situation may have at least 7-8 questions. Each question matches one indicator of e-decision making. After learners finish the test, we will know their ability level on e-decision making.

6. Research Managing Page (Teacher).

The basic purpose of research managing page is for teacher to upload the questions, and for researchers to search learners’ grades. All of the grades will be settled into Statistical Report Page, and it will analyze students’ grading and cognitive loading theory.

7. Systematic Page (Engineer).

The purpose of systematic page is for engineer to write the platform, because the SDT platform is using the system developmental approach, where the system will be adjusted during the study time. The engineer will provide the system draft, and after testing the draft, the engineer will adjust the platform until the system meets the requirement.

Self-determination should include three psychological needs: autonomy, competence, and relatedness, the theory construction shown as Fig. 2:

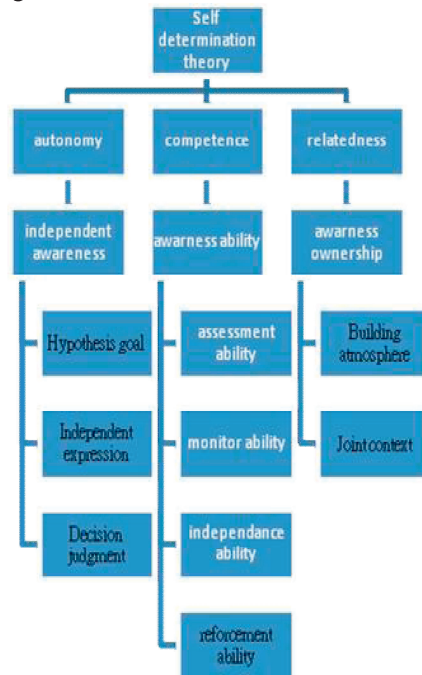


Fig. 2 Self-determination theory construction

Based on Fig. 2 construction, the ideas of designing of self-determination theory on SDT platform as following:

In order to strengthen the learner the independent feeling, system's design will mainly enable the learner to aim at study condition. Learners will decide their own study way, and by using the platform, the learners can strengthen ability of the setting their hypothesis goal, the independent expression, the decision judgment.

In order to satisfy learner's competences feeling, system's design will mainly give a chart for the learner learning effort curve. This chart enables the learner diagnose their study condition.

In order to meet the relatedness demand, the system has joined the discussion area. Participants can use the discussion area to build the social group atmosphere. The teacher and the learner by the discussion area can create relatedness demand.

According to the above statement, the research's platform design need contain the following several functions:

8. Function of the self-choice.

The research uses the multi-layered type structure to construct the study (Hsu, Chang, & Wu, 2009; Hsu, & Chang, 2011). The system will provide a hint if students continue answer two questions. Every question provides students options, and students can choose the option by knowing him/herself needs. The questions flow chart can see as Fig. 3.

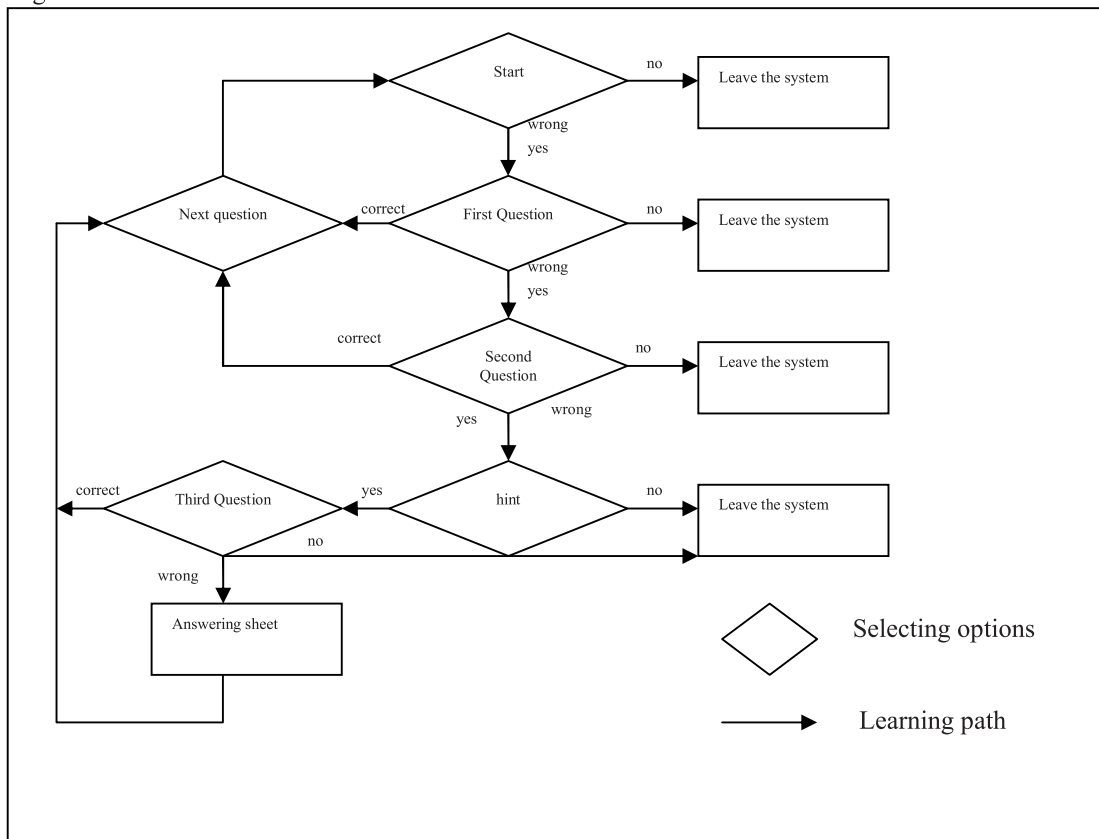


Fig. 3 The questions flow chart

9. Functions of Learning Effort Curve.

This research used the learning effort curve (Hsu, Chang, & Wu, 2009; Hsu, & Chang, 2011), as the Fig. 5 shown. The system can analyze learners' dynamic and real time learning effort curve and the system use the user-friendly interface to let students understand their learning effort curve. We hope we can use this chart to provide a view for students to understand their own learning ability and situation, and students can adjust their learning path to enhance their learning ability.

10. Function of on-line immediate discussion area.

Learners use the online immediate discussion area to interact with other and group, and it can cause group's relatedness. This research used system developmental approach. The research will first provide the system draft, and after testing the draft, the research will adjust the platform until the system meets the requirement. By using the discussion area, the participants will have feedback of the system-uses, and it will provide information for engineer to adjust the platform.

11. Conclusions

This research used the self-determination approach to design an online learning platform. With the comparison of other learning platform, the characteristic of this platform are as following:

11.1. This is a blended learning platform with learning and evaluation functions. The platform used multi-layered type structured to provide students' feeling of independence while students can choose their own learning path from the platform.

11.2. Within the students' learning progress, platform can provide the learning effort curve, which can promote students to evaluate their own learning ability, and students can diagnose their learning situation in order to provide the appropriated adjustment for their own learning ability.

11.3. The platform provides the online immediate discussion area where participants (learners, teachers) can use the online discussion area to interact and to construct a social context of relatedness.

For the future plan, we will use the hermeneutics approach to develop the indicators of e-decision making. The indicators will be implemented into the situational questions which will be applied into the learning platform.

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