Constructing a Self-Directed Collaborative Learning Environment by Combining Traditional and Non-traditional Ways—an Example of Student-Families in Network

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Abstract
Self-directed learning is one of the basic literacy for life long learning, and work together with others is also one of the successful keys in the world of work. There are many educators urge the importance of combining self-directed learning with educational technology as well. This project tries to urge the importance for constructing environments for the youngsters cultivating abilities such as Self-Directed Learning (SDL) and collaborative learning by network and face-to-face activities. By this project (Student-Families in Network), the researcher found if we provide good open network resources for the youngsters and provide some essential assistance (such as offer some open resources, implemental courses, and face-to-face activities, the youngsters are really able to learn the abilities mentioned.

Keywords: Integrated learning environment, Collaborative learning, Self-Directed learning

1 Introduction
Self-directed learning is one of the basic literacy for life long learning, and work together with others is also one of the successful keys in the world of work. One of the characteristics of Information technology (IT) era for people living well during their lifelong is to possess the ability of learning something new. Another characteristic of IT era is to change the role of learning from teacher-center to student-center. Thus, in order to cultivate the youngsters to play an active role in learning activities, the school systems have to construct an environment to enhance students to conduct Self-directed learning activities.

Bolhuis (1996)[1] mentioned that there is a need to shift the control of learning activities from teachers to learners in interns of preparing students for active and self-directed learning in life.

Thus, by these two-year experiences of this project (Student-Families in Network, SNF), we suggest to construct a self-directed learning environment for the youngsters to promote them to play an active role in learning both by traditional learning activities and by non-traditional activities.

2. Constructing a Self-Directed Collaborative Learning Environment
The participants of SFN are consisted of students from national central university, senior high schools and junior high schools. In order to construct a self-directed collaborative learning environment, the SFN provides the following resources or activities for the youngsters to plan and implement their projects in terms of their interests.

2.1 Open resources in Network
In this project, the youngsters can establish their own websites as a tool of communication with others, but it is not necessary to possess the ability to establish their own websites. They can apply a family website from EduCities based on their need. The homepage functions of SFN include: discussion area, answering machine, self introduction area, chatting room, multiple intelligence test, Mrs. Cyber, and living information resources. These functions provide the members a fully communication media for them to exchange ideas, such as their projects and some network social activities. The researcher plays the role as a resources-provider.

2.2 Helping to hold some face-to-face activities
Communication by means of Internet is not enough for the members of SFN to finish their teamwork cooperatively. Thus, face-to-face activities are playing an important role for the members of SFN in terms of their theme project. Whether there is a need to hold face-to-face activities or not was based on the need of the members of SFN.
3. The implemental of SFN

3.1 The participants and team projects

Due to the entrance examinations both for junior high school students (for entering a good senior high school) and senior high school students (for entering a good university), there is an obstacle for performing this project. The major concerning for the participants was if they spend a lot of time joining the project. Thus, some of the participants dropped out during the project. Table 1 shows the number of the participants for each periods and themes of the project.

<table>
<thead>
<tr>
<th>Schedules for the Projects</th>
<th>Themes of the project</th>
<th>Participants</th>
<th>Activity participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Students of NCU</td>
<td>Students of Secondary schools</td>
<td>Total</td>
</tr>
<tr>
<td>The first period June/2000~March/2001</td>
<td>Flash Application</td>
<td>85</td>
<td>12</td>
</tr>
<tr>
<td>The second period April/2001~October/2001</td>
<td>Homepage Design</td>
<td>70</td>
<td>8</td>
</tr>
<tr>
<td>The third period November/2001~April/2002</td>
<td>e-book making</td>
<td>41</td>
<td>5</td>
</tr>
</tbody>
</table>

Table 1: The participants for each periods and themes of the project

3.2 Activities of SFN

The major interactions of SFN for team collaborative learning and social life were by Internet and face-to-face activities. The number of activities interacted by SFN’s members is shown on table 2. From data shows on table 1, we found that the number of face-to-face activities has a trend to decline. On the contrary, the number of network activities has a trend to increase (accounted by times of each person jointed).

<table>
<thead>
<tr>
<th>Periods</th>
<th>Face-to-Face activities</th>
<th>Network activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Face-to-face activities for the whole members</td>
<td>Use Discussion Areas of EduCities</td>
</tr>
<tr>
<td>1st period</td>
<td>8</td>
<td>162</td>
</tr>
<tr>
<td>2nd period</td>
<td>5</td>
<td>591</td>
</tr>
<tr>
<td>3rd period</td>
<td>3</td>
<td>398</td>
</tr>
</tbody>
</table>

Table 2: The numbers of Activities of SFN

4. Results

Due to the third period of this study is still conducting; the results of this study are limited at the first period and the second period.

4.1 The effectiveness of SFN

According to the data (at the first period, mean=. 43, SD=. 81; at the second period, mean=. 47, SD.75), both periods of this project can be evaluated as “effectiveness”.

4.2 Correlation Analysis

In correlation analysis, we found the following results: 1) at the first period, there are five factors have positive relationship with the “effectiveness of SFN”. These factors are: “individual growth and benefit” (\( \rho = .665, p<.01 \)), “parents’ support” (\( \rho = .548, p<.01 \)), “individual interest” (\( \rho = .665, p<.01 \)), “to recognize new friends” (\( \rho = .501, p<.01 \)), and “school teachers’ support” (\( \rho = .619, p<.01 \)); 2) at the second period, the following factors have positive correlation with the “effectiveness of SFN”: “individual interest” (\( \rho = .543, p<.01 \)), “to recognize new friends” (\( \rho = .782, p<.01 \)), “individual’s willingness” (\( \rho = .432, p<.01 \)), and “school teachers’ support and individual’s benefits” (\( \rho = .569, p<.01 \)). From the data shown above, we found that the motivation of self-directed learning in cooperative ways, self-interest orientated, teachers’ and parents’ support” and “to recognize new friends” are important factors.

5. Conclusion and Suggestions

By the experiences we have got from this two-year study, we have some suggestions for constructing a good self-directed learning environment:

- to develop some easy-using and ease-accessing open resources on network for constructing network collaborative learning environment;
- to guide the youngsters to develop Self-Directed network collaborative learning activities by means of the elder youngsters to lead the younger youngsters;
- to plan a series of strategies for promoting the youngsters to use network for self-directed collaborative learning activities, and to cultivate students’ life-long learning abilities and literacy; and
- to offer some assistance in avoiding the youngsters to go the wrong direction in their self-directed network collaborative learning activities.

Reference