Proposal and Evaluation of Online Community Which Are Modeled on School Club Activities for Promoting Pro-Environmental Behavior

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Introduction

• Energy saving in household is a pressing issue in Japan.

• Promotion of Pro-Environmental Behavior (PEB) is necessary in Japan.
  o Example: “switch off electronic appliances when they are not used”

• Communication in a group with distributed CMC* tool is effective for promoting PEB.
  o Members mutually promote PEBs and keep doing them.
  o Members can join the group when they are staying home.

* Computer Mediated Communication
Purpose

• Group norms which promote some actions are often formed and are disliked by members.
  – Dropout from mixi, a Japanese famous SNS, was caused by a norm which forces them to give comments to their friends.

In this study,

• An online community “eco-club” which members can accept a norm for promoting PEBs was proposed.
• The proposed community was evaluated through an experiment.
Approach

- A group norm gives an implicit pressure to participate in the community and to keep doing PEBs.

- "Eco-club"
  ① Giving members of community the roles of junior/senior students which are modeled on Japanese school club activities.
  ② Forming positive relationships between members.

→ Norms will be accepted because most Japanese take junior/senior relationship in club activities for granted.
Outline of activities of Eco-club

• Group members carry an iPod touch in their houses.
• iPod touch are connected each other through the Internet
• Members communicate their PEBs with an iPod touch application.
Reporting PEB practice (ECO-ren)

1. When a member does (practices) a PEB...
   - Turn the tap off while washing
   - Just after doing PEB

2. Choose the practiced PEB from PEB list.

3. Every members can see others’ practiced PEBs on this display.

4. Mutual monitoring will form group norms for promoting PEBs.

The number of PEBs members practiced today

- Reporting PEB practice (ECO-ren)
- Turn the tap off while washing
- PEB list
Communication board among members

“Eco-club journal (BBS)”

• Electronic bulletin board system
• Members communicate each other using this function and make positive relationship.

Posting a message

Messages

Time flow

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Role play and entrance/graduation system

- Role-play helps norms to be accepted easily.

- **Term 1**: two weeks
  - **Graduation**
  - **Role change**
- **Term 2**: two weeks
  - **Graduation**
  - **Role change**
- **Term 3**: two weeks
  - **Graduation**
  - **Role change**

- **Role of senior students**
  - Group 1
- **Role of junior students**
  - Entrance Group 2
  - Entrance Group 3
  - Entrance Group 4

- **STSS2012**
SAKURA
for norm of active posting

• SAKURAs are special members who are requested to
  o Post many positive, favorable messages to eco-club journal.
  o Report many PEB practices.

• Other members don’t know existence of SAKURAs.
  → Positive relationship among members and a norm of active posting PEB practices will be formed.
Experiment
Purpose and method

• Purpose
  o To evaluate the proposed community and Promotion effect of PEBs.

• 16 participants joined
  o They used the iPod touch application in their houses for a month.

• The experimental period
  o From 2012 November 14 to 2012 December 25
**Experiment**

**Schedule and procedure**

- **Group members**
  - Group 1 and group 4 are all SAKURAs.
  - Group 2 and group 3 include four participants and a SAKURA.

- **Questionnaire**
  - PEB frequency was measured once a week and a month after the period of participation.
  - Subjective evaluation of the community was conducted just after the period of participation.

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**Senior**

- Group 1

**Junior**

- Group 2
- Group 3
- Group 4

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**Weeks**

- Week 1
- Week 2
- Week 3
- Week 4
- Week 5
- Week 6
- (A month)
Results

Frequency of PEB

- PEB frequency of Group 2 increased.
- That of Group 3 did not significant.
  - Base levels of 50’s were high before the experimental period.
  - The experimental period was close to new year holiday. (Daily behaviors were probably disturbed)

*Ratio of "Always" and "Often" in five-grade Likert scale
Reports of PEB practices

- 50’s group reported many PEB practices.
  - Reports by 50’s increased after their role change.
Results and discussion
Norm and positive relationship

Questionnaire results
“"I felt I had to participate in the activities of the community.""

- Seven participants of 50’s groups and five participants of 20’s groups answered “yes”. Most participants had norm consciousness.

- One participant of 50’s groups and four participants of 20’s groups answered “yes”. Positive relationship could not be formed.

“I posted positive messages in eco-club journal.”

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Results and discussion
Continuous participation

Questionnaire results
“I could participate in the community continuously.”

No 1 Yes 7
50’s groups

No 1 Neutral 6
20’s groups

“I had the norm for participating in the community.”

Yes, It caused continuous participation.
Yes 1 No 1
6
50’s groups

Yes, It caused continuous participation.
Yes 1 No 4
20’s groups

• Feeling the norm for participation is effective.
• Positive messages are not indispensable?
Summary

• An online community “eco-club” was proposed for promotion of PEBs.
  • Imitate Japanese school club activity.

• The norm for participation in the activities can be accepted by the participants.
  • Positive relationships is not indispensable, however, it may promote participation.
Thank you