Online Children Protection Policy based on evidence by ILAS in Japan

-Toward Measuring Children's Digital Competences-

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• 60.4% of youths have their own smartphones.
• Ownership rate of smartphones of youths is rapidly increasing.
• 95.9% of senior high school students and 58.1% of junior high school students have their own smartphones.

Ownership Status of Smartphones of youths in Japan

Source: Survey of Youth Internet Environment 2018, Cabinet office JAPAN
• The number of youths victimized by SNS-related crimes with smartphones use increases year by year.
• In 2017, the number of victimized children via SNS amounts to 1,813, far exceeding 29 of dating sites.

Source: National Police Agency (2018)
Internet Literacy Assessment indicator for Students (ILAS) (2012)

The ability that this assessment shall measure is the ability to use the internet safely and securely, which is one of the essential abilities for life in the knowledge-based, advanced information and communications society. As the smartphone usage spreads rapidly, in an environment in which the internet is more and more familiar to students, we would like all students to acquire this ability by the time they have finished basic compulsory education.

Key Competencies

1 The ability to cope appropriately with illegal and harmful content on the internet.
   a. Understanding and coping appropriately with the problem of illegal content.
   b. Understanding and coping appropriately with the problem of harmful content.

2 The ability to communicate appropriately on the internet.
   a. Understanding information on the internet and communicating appropriately.
   b. Understanding and coping appropriately with e-commerce problems.
   c. Using the internet while paying attention to the usage fee and time wasting.

3 The ability to protect privacy and security on the internet.
   a. Using the internet while paying attention to privacy.
   b. Using the internet while paying attention to security.
ILAS for Implementing the Recommendation of the Council on the Protection of Children Online

- ILAS is an index to achieve evidence-based youth protection policy, recommended by the Recommendation of the Council on the Protection of Children Online.
- ILAS is able to fulfill the "Regularly measuring the evolution of Internet literacy" specified in Recommendation 4. d. iii.
- ILAS is systematically compiled required skills for risk avoidance based on the OECD typology of risks.

d. Foster awareness raising and education as essential tools for empowering parents and children by, for example:

iii) Regularly measuring the evolution of their Internet literacy.
The necessity of measuring Internet literacy

• Adjust to the intensity of the youth protection
  • ILAS can adjust the intensity of youth protection regulation such as filtering according to the proficiency of young literacy.
  • ILAS can secure the freedom of use of the Internet as much as possible.

• Optimize awareness education policy
  • ILAS can clarify what types of literacy are not sufficient.
  • We can provide education to compensate for lack of internal literacy for young people.
ILAS development concept

- ILAS is made of two parts; a literacy test to measure youth literacies and questionnaire survey.
- ILAS can evaluate the proficiency level of literacies for risk avoidance of youth which could not be measured by questionnaire surveys so far.
- By cross-analyzing tests and questionnaires, ILAS is able to visualize trends of literacy of youths by attribute.

Evaluate analysis results and review youth protection policy

ILAS

questionnaires

Literacy tests

Novelty

Actual usage
Subject attribute
Psychological situation

Cross-analysis
Correlation-analysis

Measurement of literacies

Enforcement of youth protection based on evidence

How much can be avoid the risks?

Regularly measuring the evolution of Internet literacy

Evaluate analysis results and review youth protection policy
Development & Measurement Steps of the Internet Literacy Indicator

[Development phase]

• **Step 1: Classification and definition of the online risks for children on the Internet, 2011**
  Systematization based on OECD (2012) "Typology of risks"
  Refer to Literatures, Case Studies, Interviews

• **Step 2: Development of the testing system to measure young people’s Internet literacy, 2011-2012**
  Creating test items, Questionnaires
  Verification of reliability and validity for ILAS prototype
  Detailed modification of ILAS

[Measurement phase]

• **Step 3: Measurement of Internet literacy on a nationwide scale, 2012- to be present**
  Measurement of Internet literacy of youth by “ILAS test”
  Implementation of analysis and evaluation for the measured data
  Evidence-based policy recommendations
The Relationship between ILAS Risk Classification, Skill Details, and Test Items

- The literacy desired to be acquired by high school first grade
  - Youth’s ownership rate of mobile phones amounts to almost 100% when entering high school in Japan.
  - Comprehensively compiled the skills for properly use the Internet.

### ILAS Risk Classification

<table>
<thead>
<tr>
<th>Major category</th>
<th>Medium category</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Illegal and harmful Information risks</td>
<td>A. Illegal information</td>
<td>1. Copyrights, portrait rights, criminal threats, dating sites, etc.</td>
</tr>
<tr>
<td></td>
<td>B. Harmful information</td>
<td>1. Content offensive to public order and morality, adult-only content, etc.</td>
</tr>
<tr>
<td>II. Inappropriate usage risks</td>
<td>A. Inappropriate contact</td>
<td>1. Libel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Anonymous social networking site (SNS)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Non-anonymous SNS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Spam</td>
</tr>
<tr>
<td></td>
<td>B. Improper transactions</td>
<td>1. Fraud, sale of improper products, etc.</td>
</tr>
<tr>
<td></td>
<td>C. Inappropriate usage</td>
<td>1. Excess Internet consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Dependence</td>
</tr>
<tr>
<td>III. Privacy and security risks</td>
<td>A. Privacy risks</td>
<td>1. Leakage of private and/or personal information, inappropriate disclosure</td>
</tr>
<tr>
<td></td>
<td>B. Security risks</td>
<td>1. Impersonation through unauthorised access, etc.</td>
</tr>
</tbody>
</table>

### Skill details about “Application”

<table>
<thead>
<tr>
<th>Knowledge (●)</th>
<th>Behavior (○)</th>
</tr>
</thead>
<tbody>
<tr>
<td>●Understand that smartphones are advanced mobile phones with computer-level advanced information processing functions, and that many functions are offered via applications (software)</td>
<td>○Download applications after confirming their trustworthiness, etc.</td>
</tr>
</tbody>
</table>

[Sample question regarding applications] Q: In order to add functionality, smartphone users can freely install applications in their smartphones. What should users be most cautious about when installing applications?

49 Test items (7 test items for each of 7 categories)
Survey and Results by ILAS
The Results of ILAS Literacy Test (2017)

- Conducted nationwide surveys, 95 high schools, about 17,000 first graders as subjects.
- The average of correct answer rate is 68.8%.
- [Strong]
  - Ability to deal with “inappropriate usage” is 79.4% ⇒ Can Pay attention to usage fee and time waste.
- [Weak]
  - Ability to deal with “improper transactions” is 56.4% ⇒ Knowledge of e-commerce is insufficient.
  - Ability to deal with “privacy risks“ is 62.3% ⇒ Knowledge of privacy is insufficient.

Correct answer rate for each risk category

Source by Ministry of Internal Affairs and Communications (2018) "Internet Literacy Indicator for Young People"
• The correct answer rate of subjects with average usage time less than 2 hours was higher than others
• As the subject's use time gets longer, the correct answer rate tends to be lower.
⇒ It is important to set appropriate usage time of the smartphones.

Correct answer rate for each use time of smartphone

Usage time of smartphone

- Less than 1 hour
- 1 hour - less than 2 hours
- 2 hour - less than 3 hours
- 3 hour - less than 4 hours
- 4 hour - less than 5 hours
- 5 hour - less than 6 hours
- 6 hours or more

Source by Ministry of Internal Affairs and Communications (2018) “Internet Literacy Indicator for Young People”
The Relationship between Educational Experience and Correct Answer Rate (2017)

- Compared the correct answer rates of experienced and non-experienced subjects of information awareness education at School.
- Experienced subjects higher score than non-experienced subjects in all risk categories.

Correct answers rate in the presence or absence of experiences of awareness education

<table>
<thead>
<tr>
<th>Category</th>
<th>Experienced (%)</th>
<th>No experience (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>69.25</td>
<td>54.88</td>
</tr>
<tr>
<td>Illegal and harmful</td>
<td>70.71</td>
<td>58.39</td>
</tr>
<tr>
<td>Information risks</td>
<td>71.49</td>
<td>55.49</td>
</tr>
<tr>
<td>Inappropriate usage risks</td>
<td>64.43</td>
<td>50.46</td>
</tr>
<tr>
<td>Privacy and Security risks</td>
<td>***</td>
<td>***</td>
</tr>
</tbody>
</table>

Created by the author based on ILAS 2017 data
The Relationship between “Experienced Online Troubles” and Correct Answer Rate (2017)

- Cross-analyzed the correct answer rate among experienced online troubles subjects and inexperienced subjects.
- Experienced subjects have higher rates of correct answers.
- It is perceived that they are acquiring literacy in the process of using the Internet.
- It is advisable to avoid excessive Internet usage restrictions.

Correct answer rate in the presence or absence of experience of Internet trouble

<table>
<thead>
<tr>
<th>Category</th>
<th>Experienced</th>
<th>No experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>70.34</td>
<td>67.64</td>
</tr>
<tr>
<td>Illegal and harmful Information</td>
<td>71.82</td>
<td>69.21</td>
</tr>
<tr>
<td>Inappropriate usage risks</td>
<td>72.23</td>
<td>70.03</td>
</tr>
<tr>
<td>Privacy and Security risks</td>
<td>66.04</td>
<td>62.49</td>
</tr>
</tbody>
</table>

Created by the author based on ILAS 2017 data
Conclusion

• **For measuring children’s competencies and resilience and for international comparative policy analysis.**

• ILAS is an index to measure the Internet literacy of young people, with systematically compiled competencies required for coping with Internet risks, which consists of test items to measure its competencies.

• ILAS has subdivided the competencies that are required for Internet risk avoidance into seven medium risk categories and has defined 186 skills into skill sets required to cope with each risk from risk classification.

• ILAS is composed of two parts, a test part for measuring Internet literacy and a questionnaire part for measuring the usage situation and attributes, and by cross-analyzing the results of the test and the questionnaire, it is possible to visualize the relationship between usage situation and literacy or attributes and literacy.

• We believe that ILAS can contribute to international comparative analysis from the aspect of measuring Internet literacy.