Measuring Digital Literacy in the workplace

Gila Kurtz, Yehuda Peled, Orit Avidov-Unger

ICELW 2018

June 13-15, 2018
Columbia University - New York
Outline

› Who we are
› Why?
› The tool
› 2 case-studies
› Conclusions & future plans
The Team

Gila

Yehuda

Orit
Are we ready for what's coming?
LinkedIn CEO on the 'soft' skills gap

Jeff Weiner, LinkedIn CEO, talks about key findings from new research that takes a look at skills shortages across the United States.
Based on data from member profiles and job postings across 100 major U.S. cities

**Current shortage of workers with:**

- Communication skills
- Basic digital Skills

- We need to talk about skills and less on occupation
Digital Learning Literacies – A Validation Study

Gila Kurtz
The College for Academic Studies,
Or-Yehuda, Israel

Yehuda Peled
Western Galilee
College, Acre, Israel

Gila_k@mla.ac.il  yehudap@wgalil.ac.il

Abstract

This paper presents a validation research of seven Digital Learning Domains (DLDs) and sixty-five performance statements (PSs) as perceived by students with experience in learning via ICT. The preliminary findings suggest a statistical firmness of the inventory. The seven DLDs identified are Social Responsibility, Team-based Learning, Information Research and Retrieval, Information Management, Information Validation, Processing and Presentation of Information, and Digital Integrity. The 65 PSs will enable a teacher to identify the level of competency the learner has in each DLD, thus identifying students’ strengths and weaknesses that must be addressed in order to facilitate learning in the current era.
Digital literacies of Israeli college students majoring in education

Gila Kurtz, Yehuda Peled, Orit Avidov-Unger

Abstract

The purpose of the study is to assess the level of digital literacies of students majoring in education as well as their digital readiness. Digital literacy prepares individuals to navigate actively, collaboratively and participatively in digital environments. The study uses a questionnaire developed by the research team which includes 54 items divided into seven areas: 1. Information research and retrieval; 2. Information validation; 3. Information management; 4. Information processing; 5. Team-based work; 6. Integrity awareness; and 7. Social responsibility. Based on these seven areas of digital literacy, four types of digital readiness were defined: 1. First order digital readiness; 2. Advanced order digital readiness; 3. Teamwork; 4. Ethical. The sample consisted 1,265 students majoring in education from five colleges. The findings show that more than half of the participants reported an overall high level of literacy. It was also found that their sense of readiness of teamwork and ethical readiness were high. However, a low sense of readiness was found in a first order and an advanced order of readiness. These findings enable faculty and educational policy makers to identify strengths and weaknesses of digital literacies of students that must be addressed to facilitate their path in current and future digital environments.

Keywords: digital literacies, digital readiness, students majoring in education, higher education.

Digital literacies and readiness assessment of participants in a training program in a security-technological organization

Gila Kurtz
Holon Institute of Technology

Sarrai Hezi
IDF, Consolidated Training Campus in the Negev

Yehuda Peled
Western Galilee College

Orit Avidov-Unger
Adva Academic college

Abstract

The purpose of the study is to assess the level of digital literacies of employees participating in a training program in a security-technological organization as well as their digital readiness. The study uses a questionnaire which includes 52 items representing seven digital literacy domains: 1. Information research and retrieval; 2. Information validation; 3. Information management; 4. Information processing; 5. Team-based work; 6. Integrity awareness; and 7. Social responsibility. Based on these seven domains of digital literacy, four types of digital readiness were defined: 1. First order digital readiness; 2. Advanced order digital readiness; 3. Teamwork readiness; and 4. Ethical readiness. The sample consisted of 101 participants. Most respondents reported a high level of four types of literacy: integrity awareness, team-based work, social responsibility and information research and retrieval. However, more than half reported on medium-low level literacy in information processing, information validation, and information management. It was also found that their sense of readiness for teamwork and ethical was high. However, a medium-low sense of readiness was found in a first order and an advanced order of digital readiness. These findings will enable instructional designers to identify strengths and weaknesses of digital literacies and readiness of employees that must be addressed to facilitate their path in current and future
7 Digital Literacies Domains (DLD)

- Data Collection
- Evaluation of Data
- Data management
- Data processing
- Teamwork
- Integrity awareness
- Social responsibility
A structural equation modeling analysis

*Figure 1: Path analysis for the proposed research model testing the relations between digital literacy domains (N=950)*
7 Digital Literacies Domains (DLD)

- Social responsibility
- Integrity awareness
- Teamwork
- Data processing
- Data management
- Evaluation of Data
- Data Collection
Case-study # 1

- 101 employees participating in a training program in a security-technological organization

- a high level of literacy in all domains. In particular, a perceived high sense of Integrity awareness was reported

<table>
<thead>
<tr>
<th>Literacy</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data management</td>
<td>3.76 (1.01)</td>
</tr>
<tr>
<td>2. Evaluation of data</td>
<td>3.81 (1.05)</td>
</tr>
<tr>
<td>3. Data processing</td>
<td>3.95 (.97)</td>
</tr>
<tr>
<td>4. Data collection</td>
<td>4.02 (1.00)</td>
</tr>
<tr>
<td>5. Social responsibility</td>
<td>4.18 (1.16)</td>
</tr>
<tr>
<td>6. Teamwork</td>
<td>4.19 (1.23)</td>
</tr>
<tr>
<td>7. Integrity awareness</td>
<td>4.32 (1.11)</td>
</tr>
</tbody>
</table>

*Likert scale from 1 – not at all to 5 – to a very large extent.
A random sample of 1,265 students from 5 colleges in Israel.

- A high level of literacy in all domains. In particular, a perceived high sense of social responsibility.

<table>
<thead>
<tr>
<th>Literacy</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data processing</td>
<td>3.88 (.79)</td>
</tr>
<tr>
<td>2. Evaluation of data</td>
<td>3.88 (.78)</td>
</tr>
<tr>
<td>3. Data collection</td>
<td>4.04 (.73)</td>
</tr>
<tr>
<td>4. Data management</td>
<td>4.06 (.90)</td>
</tr>
<tr>
<td>5. Teamwork</td>
<td>4.22 (.73)</td>
</tr>
<tr>
<td>6. Integrity awareness</td>
<td>4.24 (.75)</td>
</tr>
<tr>
<td>7. Social responsibility</td>
<td>4.61 (.68)</td>
</tr>
</tbody>
</table>

*Likert scale from 1 – not at all to 5 – to a very large extent.*
Can you see?

<table>
<thead>
<tr>
<th>Literacy</th>
<th>Average (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Data processing</td>
<td>3.88 (.79)</td>
</tr>
<tr>
<td>2. Evaluation of data</td>
<td>3.88 (.78)</td>
</tr>
<tr>
<td>3. Data collection</td>
<td>4.04 (.73)</td>
</tr>
<tr>
<td>4. Data management</td>
<td>4.06 (.90)</td>
</tr>
<tr>
<td>5. Teamwork</td>
<td>4.22 (.73)</td>
</tr>
<tr>
<td>6. Integrity awareness</td>
<td>4.24 (.75)</td>
</tr>
<tr>
<td>7. Social responsibility</td>
<td>4.61 (.68)</td>
</tr>
</tbody>
</table>

Liters scale from 1 – not at all to 5 – to a very large extent.

*Likert scale from 1 – not at all to 5 – to a very large extent.*
We believe that using this tool will enable instructional designers and policy makers to identify strengths and weaknesses of digital literacies of employees that must be addressed to facilitate their path in current and future digital work environments.
Current work

Digital Literacies

This survey is designed to learn about students' digital literacies. Please rate your attitude to the following statements by using the following scale:
1. strongly disagree
2. somewhat disagree
3. neither disagree nor agree
4. somewhat agree
5. strongly agree.
There are no right or wrong options. Your answers will be kept confidential and will serve only for research purposes. Thank you for your cooperation.

1. Information Research and Retrieval

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Somewhat agree</th>
<th>Disagree or neither agree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

https://docs.google.com/forms/d/1Klytq5dx9AsyfMSajyRBlQw4voWcnfFkGeS4
Limitation of the tool: Self-perceived

We are in a process of developing an assessment tool tasks based on scenarios (hypothetical situations)

This will enable us to have the research subject relate to "real world" events designated to find out the worker real capability regarding the 7 DLD's