# AN OVERVIEW OF THE MEDIA INFORMATION LITERACY IN BRAZIL

# SITUATION OF THE EVALUATION SKILLS OF STUDENTS

**Jhonatta Martins Leal**

**Thesis**

**Master in Education**

**Faculty of Education,**

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**Chiba University**

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# **Abstract**

In an era of rapid development of Information and Communication Technologies, a new gap is found within our societies, the Digital Divide. This gap represents those who have and those who do not have access to information inside the digital world that we live in. To address this gap, we as citizens, need skills related to the access, evaluation, organization, and creation of information, in order to close this gap, and avoid a new form of prejudice toward those that do not have access to information. This situation led to several initiatives inside the educational world, being one of the most notorious, the initiatives led by the United Nations Educational, Scientific and Cultural Organization (UNESCO). The UNESCO has led efforts to address the Media Information Literacy (MIL) of citizens around the world, with their latest being the Global MIL Assessment Framework, which provides guidelines and criteria to perform the assessment of skills related to MIL. This study analyzes the situation of young Brazilians regarding their skills, through a bibliographic research of the data available, focusing on the Evaluation skills component of the UNESCO MIL Assessment Framework. The results showed that most skills related to the Assessment of Information are well developed in the country, while Evaluation of Information skills still need more efforts, and Organization of Information skills have the lowest development/lack of research of the three main subjects analyzed.

Keywords: Media Information Literacy, UNESCO, Performance Criteria.

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## 1. Introduction

We live in a fast growing digital world. Information flows in an ever-increasing speed, and the ease to access and publish information moves along with it. The children of today are born inside this digital world, surrounded by information conveyed in a wide selection of different media. However, while some people are have solid access to this load of information, other still face a distance from this sea of information. The gap between people who have access to information technology and those who do not has been named Digital Divide (van Dijk, 2006).

However, article 19 of The Universal Declaration of Human Rights states that everyone has the right to freedom of opinion and expression, which includes freedom seek, receive and impart information and ideas through any media. Thus, a reality where we have to confront the digital divide does not seem to fully carry the mentioned article of the human rights declaration.

The concept of Media Information Literacy (MIL) was developed in order to bridge the gap between the digitally divided individuals in society, aiming to lower the disparity between those who have and those who do not have access to media and information (Grizzle et al., 2013). The United Nations Educational, Scientific and Cultural Organization (UNESCO) has been making efforts towards MIL for the last

two decades, in order to develop individual capable not only of accessing information, but also capable of evaluating and creating information contents. In addition, the gap between those who have and those who do not have access to information has been changing over the years, relating as well to those that can or cannot find, analyze and critically evaluate the information found.

The UNESCO then defines MIL as composite concept and describes the characteristics of media information literate citizens as follows:

- Understand the role and functions of media and other information providers in democratic societies;
- Understand the conditions under which those functions can be fulfilled;
- Recognize and articulate a need for information;
- Locate and access relevant information;
- Critically evaluate information and the content of media and other information providers, including those on the Internet in terms of authority, credibility and current purpose;
- Extract and organize information and media content;
- Synthesize or operate on the ideas abstracted from content;
- Ethically and responsibly communicate one's understanding of created knowledge to an audience or readership in an appropriate form and medium;
- Be able to apply ICT skills in order to process information and produce user-generated content;
- Engage with media and other information providers, including those on the Internet, for self-expression, freedom of expression, intercultural dialogue and democratic participation. (Grizzle et al., 2013; p. 13-14)

This study will only focus on some of the aspects of this concept, which are the ability to critically evaluate information and content, including on the Internet, extract

and organize information and media content, and lastly the ability to synthesize and or operate on the ideas that are drawn from the content found. These three aspects are part of one of the components that structure the UNESCO Global Media Information Literacy Assessment Framework, released in 2013, and which will be further explain in the methodology section, since it is the base for the analysis of the results of this study.

Despite the fact that institutions like the UNESCO have been making efforts toward the involvement of MIL subjects in school and society, MIL is seldom institutionalized and taught in the educational system (Jolls, 2014). Furthermore, when it is taught, MIL is mistaken for a tool, teaching individuals on how to use technology to enhance learning. However, we can observe in the UNESCO concept of MIL that it is much more than that, MIL is understanding media and information as a whole, and the technologies that make all this information available at such a high pace nowadays. Authors like Len Masterman have been studying media for a while now, and in his book, *Teaching about Television*, from 1980, he understood that when teaching about television in that time, there was only concern for content, rather than for the media as whole (Masterman, 1980).

In another point view, MIL can help to address another claim regarding this

generation of children. Since 2001. Educator and writer Marc Prensky coined the term

"Digital Natives", claiming that children after the 1980s were technology-savvy,

having sophisticated technology skills, which made them natural learners inside the

communication and information technologies (Prensky, 2001a; 2001b; 2010; 2012).

Other authors described this generation as Millennials (Howe & Strauss, 2000) or Net

Generation (Tapscott, 1998). However, such claim created a widespread discussion

since then, while some authors backed up Prensky's idea (Oblinger & Obllinger,

2005; Palfrey & Gasser, 2008), others have been opposing the idea and saying that

this generation's children are not naturally technology-savvy (Bennet, Maton &

Kervin, 2008; Ben-David Kolikant, 2010; Hargittai, 2010; Margaryan, Littlejohn &

Vojt, 2011). This is an interesting point to observe while analyzing the results of this

study as well.

Thus, MIL studies have been developed for a while now, under different

nomenclature, but the essential idea is being transmitted through the frameworks and

discussion developed by the UNESCO. Moreover, with that in mind, this study will

follow the guidelines of the UNESCO in order to analyze the actual condition of MIL

in Brazilian young.

**1.1 The UNESCO MIL Movement**

As mentioned before, UNESCO has been working with the concept of MIL for over two decades, being the first installment of their path in this area in 1982 during the International Symposium on Media Education at Grunwald, Germany. At this first step, the Declaration on Media Education gave greater aim to students as the center of this kind of education when citing that it was needed to "initiate and support comprehensive media education programs, from pre-school to university level, and in adult education" (UNESCO, 1982).

After the Grunwald Declaration, the UNESCO continued its endeavors toward media education, and the next step on its development would be in the Alexandria Declaration in 2005, where the target of the media literacy had a slight change. Instead of targeting only the student, the citizen became the new target of what started also being called information literacy.

This declaration also brings a new term into the field, implicating that "information literacy lies in the core of lifelong learning, empowering people in all walks of life." (UNESCO 2005).

Following the Alexandria Declaration, we have the 2007 Paris Agenda, which brought new aspects to the MIL field. In 2007 the Paris Agenda, also known as "12

Recommendations for Media Education", reiterates the aspects cited in the 2005

declaration and emphasizes once again the need for a wider approach inside society. It

mentions that "media education cannot be limited to the school environment; it is also

the concern of families, associations and media professionals." (UNESCO 2007c).

The concept of MIL as the one that is being studied in this study was first presented

at the First International Forum on Media and Information Literacy in 2011, held in

Fez, Morocco. In this Forum, the participants presented MIL as a composite concept

in order to enhance human life and sustainable development and citizenship

(UNESCO, 2011).

## 1.2 Background and Education in Brazil

This study is going to center its observation at the efforts being made in Brazil

regarding MIL, using as a base for analysis the Global MIL Assessment Framework.

Thus, before we analyze the available data regarding this subject, we need to have a

brief profile of the targeted country and its educational structure.

Localized in South America, Brazil has an area of approximately 8.5 million km2

and a population estimated around 205 million inhabitants. The population is

composed of 47.7% self-proclaimed white, 43.1% mulatto (mixed white and black),

7.6% black, 1.1% Asian and 0.4% indigenous(CIA, 2015). According to the World

Bank Database (The World Bank, 2014) the country GDP is estimated at $2.346

trillion (US$), which translates to an $11,384.62 GDP per capita. The latest

population census was carried in 2010 and presented the following age pyramid:

### Population Distribution by sex, according to age groups - Brazil 2010

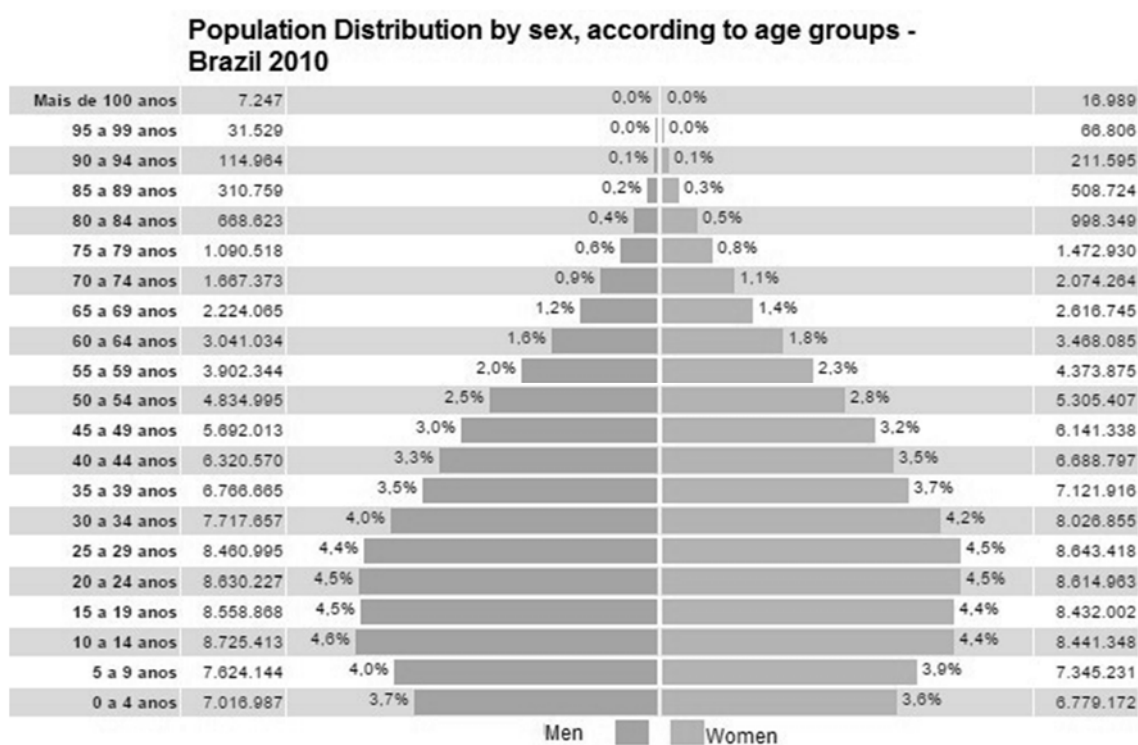| Age group | Men | Men % | Women % | Women |
|---|---|---|---|---|
| Mais de 100 anos | 7.247 | 0,0% | 0,0% | 16.989 |
| 95 a 99 anos | 31.529 | 0,0% | 0,0% | 66.806 |
| 90 a 94 anos | 114.964 | 0,1% | 0,1% | 211.595 |
| 85 a 89 anos | 310.759 | 0,2% | 0,3% | 508.724 |
| 80 a 84 anos | 668.623 | 0,4% | 0,5% | 998.349 |
| 75 a 79 anos | 1.090.518 | 0,6% | 0,8% | 1.472.930 |
| 70 a 74 anos | 1.667.373 | 0,9% | 1,1% | 2.074.264 |
| 65 a 69 anos | 2.224.065 | 1,2% | 1,4% | 2.616.745 |
| 60 a 64 anos | 3.041.034 | 1,6% | 1,8% | 3.468.085 |
| 55 a 59 anos | 3.902.344 | 2,0% | 2,3% | 4.373.875 |
| 50 a 54 anos | 4.834.995 | 2,5% | 2,8% | 5.305.407 |
| 45 a 49 anos | 5.692.013 | 3,0% | 3,2% | 6.141.338 |
| 40 a 44 anos | 6.320.570 | 3,3% | 3,5% | 6.688.797 |
| 35 a 39 anos | 6.766.665 | 3,5% | 3,7% | 7.121.916 |
| 30 a 34 anos | 7.717.657 | 4,0% | 4,2% | 8.026.855 |
| 25 a 29 anos | 8.460.995 | 4,4% | 4,5% | 8.643.418 |
| 20 a 24 anos | 8.630.227 | 4,5% | 4,5% | 8.614.963 |
| 15 a 19 anos | 8.558.868 | 4,5% | 4,4% | 8.432.002 |
| 10 a 14 anos | 8.725.413 | 4,6% | 4,4% | 8.441.348 |
| 5 a 9 anos | 7.624.144 | 4,0% | 3,9% | 7.345.231 |
| 0 a 4 anos | 7.016.987 | 3,7% | 3,6% | 6.779.172 |

Men     Women

Figure 1 - Population distribution by sex - Brazil

Source: IBGE – Brazilian Institute of Geography and Statistics

The Ministry of Education administers education in Brazil, and the educational

standards are set by the broader Law of Guidelines and Bases of Education and the

National Curriculum Guidelines (LDB, Law 9.394/96), issued by the same agency.

Basic education is free and according to the National Institute of Educational Studies and Research Anísio Teixeira (INEP, 2014) 86% of enrolled children in pre-primary education are in governmental schools as of 2014. According to the law 9.394/96, the Brazilian school system is organized in the following model:

Table 1 - Brazilian School System – Law 9.394/96

| Level | Step | | Duration | Age Group |
|---|---|---|---|---|
| Higher Education | Higher Education | | Variable | Above 18 years old |
| Basic Education | Secondary Education | | 3 years | 15 – 17 years old |
| | Primary Education | | 9 years | 6 – 14 years old |
| | Early Childhood Education | Preschool | 2 years | 4 – 5 years |
| | | Child Care | 3 years | 0 – 3 years |

Source: adapted from LDB 9.394/96

All levels presented on table 1 can have different modalities that comprise of distance education, adult education, professional education, indigenous school education, special education and rural education. Figure 2 shows the school attendance of the population aged 6 to 14 years old.
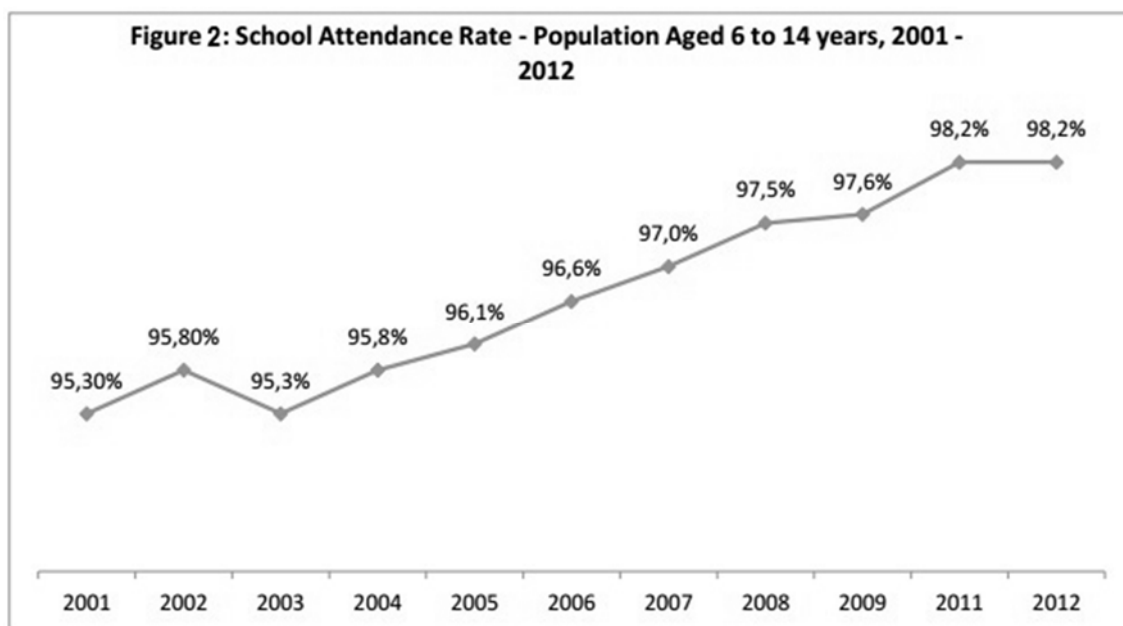
Source: UNESCO Education for All, 2015

Figure 2 - School Attendance Rate


Still according to the UNESCO Education for All report of 2015, around 86%

of enrollments in primary and secondary education are in public schools. The report also

presents some of the goals Brazil achieved since the beginning of the Education for All

program almost two decades ago. Some of these achievements are: 1) mandatory

enrollment of children aged 4 to 5 years old in preschool; 2) access to primary education

is almost universalized; 3) expansion of the vocational education supply in recent years;

4) reduction in illiteracy rates among youth and adults (illiteracy rate of people aged 15

or more decreased from 12.4% in 2001 to 8.7% in 2012); 5) increase of education

funding (6.4% of GDP); and 6) Promulgation of the National Education Plan

(2014-2024) (UNESCO, 2015).

### 1.2.1 Brazil and the ICT

Internet access in Brazil is still in development as stated by the 2014 ICT

Households research conducted by the Brazilian Internet Steering Committee (CGI.br,

2015b). According to the survey, in 2014 50% of Brazilian households have some

kind of internet connection, which corresponds to around 32.32 million households.

Figure 3shows the development of household internet access from 2008 to 2014 in the

country.



**PROPORTION OF HOUSEHOLDS WITH INTERNET ACCESS BY AREA (2008 – 2014)**
Percentage of total households
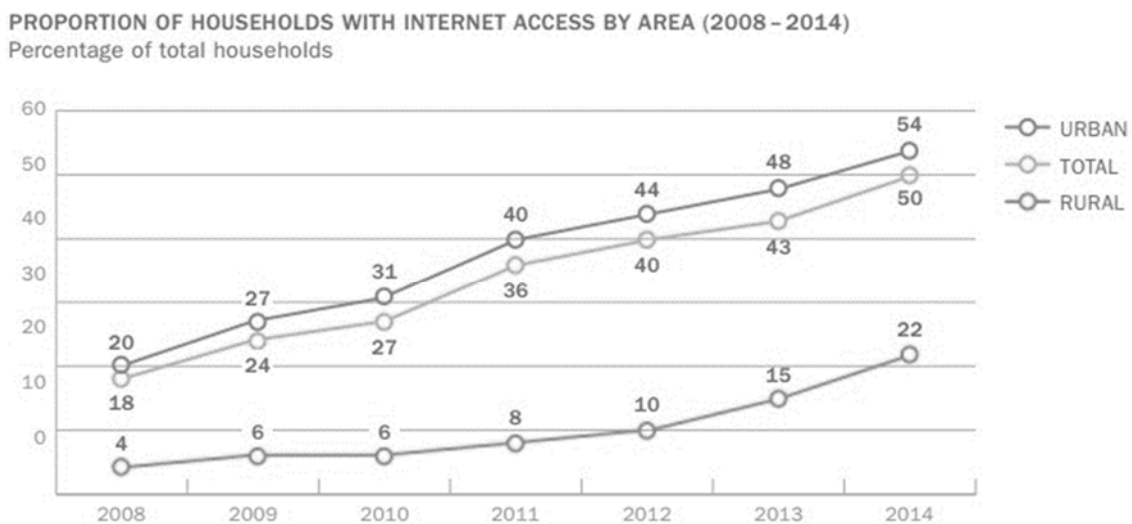
Source: ICT Households 2014 (CGI.br, 2015b)

Figure 3 - Internet access by area

Despite the jump in access since 2008, we can still observe the gap between urban

and rural areas of the country. In addition, another important aspect is the social gap

still present in Brazil. Still according to the 2014 ICT Households research,

households without internet access are mostly represented by lower social class or

minimum wage (MW) ones (Figure 4).

HOUSEHOLDS WITHOUT INTERNET ACCESS (2014)
Estimate in millions of households



Source: ICT Households 2014 (CGI.br, 2015)

Figure 4 - Households without Internet Access

The 2014 Households research also states that households that do not have internet

access due to the lack of service availability is higher on the north region of Brazil

(44%). Furthermore, among Brazilian households with Internet access, 67% have

some kind of fixed broadband connection (CGI.br, 2015b; p. 291).

Internet on mobile phones was reported as a total of 47% of the population, with a

higher rate on urban areas. Higher rates of mobile Internet user were observed on

users that had secondary or tertiary education, between 16 to 24 years old and

belonging to classes B or A (CGI.br, 2015b).

### 1.3 MIL Indicator and Research Objective

This is study is a review of the data and literature available about the skills of

young Brazilians regarding MIL. The research will focus on any valid material that

contains information about the skills related to the performance criteria by the MIL

Assessment Framework.

The research will try to answer the following questions:

1. How is the actual situation of young Brazilians regarding their evaluation

   skills in Media Information Literacy?

2. Is there any performance criteria that needs to be enhanced? If so, which

   one(s)?

As mentioned before, this study will follow the performance criteria made

available by the UNESCO Global MIL Assessment Framework, which will be

discussed next, along with the reason to focus on the Evaluation Skills component of the

framework.

### 1.3.1   The Global MIL Assessment Framework

The foundation for the present study is the UNESCO Global Media and Information Literacy (MIL) Assessment Framework, which brings all elements necessary for the assessment of MIL around the world. The UNESCO Communication and Information Sector produced the publication in close collaboration with the UNESCO Institute for Statistics in 2013, supported by the Japanese Funds-in-Trust to UNESCO. The framework focus mainly on assessment of teacher's skills in MIL, however it points that the same framework can be used for the assessment on any other societal level (UNESCO, 2013a. p.49).

Based on the above mentioned, this study is going to utilize the framework in order to analyze reports that emphasize the MIL criteria regarding students from Brazil.

### 1.3.2   The MIL Assessment Framework Tiers

The UNESCO MIL Assessment Framework has two main Tiers that embrace (i) Country Readiness and (ii) MIL Competencies. The Country Readiness tier is the term used to describe a country's preparedness to take up initiatives regarding MIL at national levels (UNESCO, 2013a. p.50). Since this study focuses only on the MIL competencies in Brazil, the Country Readiness will not be discussed in extent as of now.

Tier 2 consists of the competencies attributed to MIL by the UNESCO. This tier

is based on the MIL matrix, composed by five elements as shown in the following table:

Table 2 - MIL Competency Matrix

| MIL Component | MIL Subject Matter | Competency | Performance Criteria | Proficiency Level |
|---|---|---|---|---|

*Table 2 – MIL Competency Matrix (Adapted from UNESCO, 2005a)*

Each element branches out in several other components, originating more

complete tier (See Appendix 1 for the complete table).

Starting with the MIL main components, the framework presents us with three

distinct wider areas to analyze the competencies: (i) Access, (ii) Evaluation and (iii)
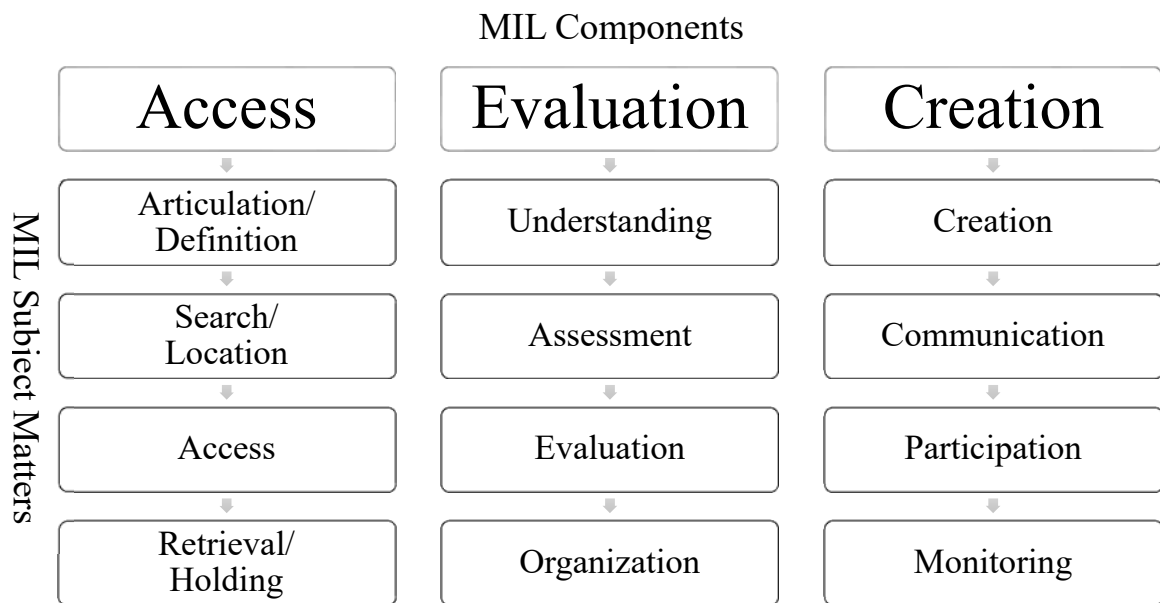
Creation:

MIL Components

| Access | Evaluation | Creation |
|---|---|---|
| Articulation/ Definition | Understanding | Creation |
| Search/ Location | Assessment | Communication |
| Access | Evaluation | Participation |
| Retrieval/ Holding | Organization | Monitoring |

MIL Subject Matters

*Figure 5 (Adapted from UNESCO, 2013a)*

Figure 5 - MIL Components

Each of these components are essential when assessing countries and its

individuals' MIL competencies. Understanding that each component is essential to the

development of successful MIL policies, this study chooses to focus on the Evaluation

Component, as the main aspect for the analysis of Brazil.

### 1.3.3   Evaluation Component Focus

The importance of the MIL components, for the development of individuals

capable of acting as full citizens of the digital age, is clear and must be preserved when

creating new policies regarding the digital information media. However, for this specific

study, the focus will retain only the Evaluation Component, aiming to analyze how such

aspect is being studied/applied in Brazil.

One of the reasons behind such choice is based mainly in the framework from

the Partnership for 21st Century Learning (P21), which within several skills, as of 2015

still brings Critical Thinking in Information Societies as one the main elements for the

modern individual inserted in such environments (P21, 2015).   The P21 organization

was founded in 2002 as a coalition to bring together the business community, education

leaders, and policymakers in order to improve education not only in the USA, but also

in the world. Today, several organizations join the P21 assisting their activities around

the world.

The P21 framework defines Critical Thinking as necessary for effectively

reasoning, systematic thinking, making judgments and decisions, which evolves in

problem solving skills (P21, 2015. p.4).

Furthermore, the P21 framework widens the foundations of the suggested skills

in regards to information, media and technology skills, when it cites that "Effective

citizens and workers of the 21st century must be able to exhibit a range of functional

and critical thinking skills related to information, media and technology" (P21, 2015

p.5). Among other suggestions to media and information literacy, it is noticeable the

mention to skills similar to those invoked by the UNESCO MIL Assessment

Framework, such as (i)Access and Evaluate Information and (ii) Use and Manage

Information.

Although the term used by the P21 framework orbits the well-known expression

Critical Thinking, if we look at the Component Two, Evaluation Skills, proposed by the

UNESCO MIL Assessment Framework, we can clearly observe the similarities:

> This MIL component is defined as the ability to understand, critically analyze and
> evaluate information, media content, the work and functions of media and
> information institutions (…). This includes comparing facts, distinguishing facts
> from opinion, being aware of timing (new/news/obsolete), identifying underlining
> ideologies and values, and questioning how social, economic, political,
> professional, and technological forces shape media and information content. It also
> involves evaluating the quality (accuracy, relevance, currency, reliability, and
> completeness) of information. Furthermore, in an age of information overload,
> individuals need also to master the technical skills of organizing, selecting and
> synthesizing media and information. (2013a, p. 57)

From the extract above, we can observe the similarities between the P21 Critical

Thinking skills and the Evaluation Skills components suggested by the UNESCO.

However, the UNESCO document amplifies the spectrum and covers the understanding

of the importance of media and information for society. Such aspect, although valid and

important for the development of a full literate citizen, will not be examined during this

study. The choice to exclude the first subject matter in the UNESCO MIL is due to the

fact that this study believes that young Brazilians have that matter already developed. In addition, due to the similarities to the critical thinking approach, the study wants to focus on the skills to assess, evaluate and organize information for the development of critically informed citizens. This will be discussed in further details on the discussion chapter.

As an additional example of the Critical Thinking and Evaluation Skills connections, we can touch on the more classical definitions of the Critical Thinking term. During the eighth Annual International Conference on Critical Thinking and Education Reform, held in 1987 by the American National Council for Excellence in Critical Thinking (NCECT), Michael Scriven & Richard Paul helped define the term used by the same Council until today:

> Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. (1987)

Such definition emphasizes most of the skills suggested by the UNESCO, which helped define the reason behind the scope that this study will use to compare children's practices and skills in Brazil. With that in mind, this work will utilize the same performance criteria listed in the UNESCO MIL Assessment Framework to review the

literature available from the targeted country. Table 3 brings all the criteria in the same order as presented by the MIL Assessment Framework, divided into the three major MIL Subject Matters for a clearer distinction between each other.

Nonetheless, we understand that not all performance criteria might be represented in the literature available for this research. Thus, this research will also try to identify which criteria is lacking more research and point definitions for future researches.

Table 3 - Evaluation Skills Competencies

| MIL SUBJECT MATTERS | PERFORMANCE CRITERIA |
|---|---|
| ASSESSMENT OF INFORMATION | A1. Define Assessment Criteria |
| | A2. Create/Use Assessment Criteria |
| | A3. Select and Summarize Information |
| | A4. Understand Information Importance/Purpose |
| | A5. Interpret Information |
| | A6. Distinguish Censorship/Editorials |
| | A7. Describe Target Audience of Information |
| | A8. Identify Advertisement |
| | A9. Identify/Verify Additional Sources |
| EVALUATION OF INFORMATION | B1. Define Evaluation Criteria |
| | B2. Aware of the Subjectivity of Evaluation |
| | B3. Identify and Unionize Related Information |
| | B4. Examine Sources |
| | B5. Evaluate Information |
| | B6. Compare Information |
| | B7. Understand the Life Cycle of Information |
| | B8. Make Judgments based on Gathered Information |
| | B9. Provide Arguments |
| ORGANIZATION OF INFORMATION | C1. Take/Record Notes and Summarize |
| | C2. Revise Information |
| | C3. Group and Organize Information |
| | C4. Understand the Importance of Indexing Information |
| | C5. Use Tools and Format for Organization |
| | C6. Store Relevant Information |
| | C7. Translate Information to Different Media Formats |
| | C8. Synthesize Information from Several Formats |

Table 3 – Evaluation Skills Competencies (Adapted from UNESCO, 2013)

## 2. Methodology

In order to understand the actual situation of the MIL performance criteria in Brazil,

this study is structured as a bibliographic research. The aim of the research will be to

identify articles, thesis and dissertations, news and any other valid material that lead us

to a better understanding of the situation of young Brazilians regarding their MIL skills.

As mentioned before, the analysis will be based on the UNESCO Global Media

Information Literacy Assessment Framework, released in 2013 by the organization. The

MIL Assessment framework provides the criteria to assess the development of the

related MIL skills.

The data survey will pay more attention, but not only, to the following resources

database:

- CAPES (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior –

    Higher Education Personnel Improvement Coordination): Capes is a national

    organization in Brazil that conducts several graduate level related activities in the

    country. Among these activities are included: 1) Evaluation of graduate course

    (master and doctoral); 2) Access and publication of scientific productions; 3)

    High level resources development funding in the country and overseas; 4)

    International research cooperation promotion; 5) Induction and development of

initial and continuing training of teachers for basic education, in classroom and

distance education formats (CAPES, 2015). Available at :

http://bancodeteses.capes.gov.br/

- SciELO: an electronic library covering a selected collection of Brazilian

  scientific journals. Available at: http://www.scielo.br/

- Google Scholar: Google's scholarly article research engine.

- Brazilian Internet Steering Committee: the committee was created in 1995 "with

  the purpose of coordinating and integrating all Internet service initiatives in

  Brazil, as well as promoting technical quality, innovation and the dissemination

  of the services available." (CGI.br, 2015a). Furthermore, the committee is

  responsible for collecting, organizing and disseminating information on the

  Internet services, including indicators and statistics.

This study will focus on research data by produced by Brazilian researchers,

especially, but not limited to, those that conducted studies inside Brazilian schools. The

age range is 9 to 17 years old, with a few exceptions for researches that took place in

schools that allowed adult education students to join the standard education course.

The analysis will be based on the results of the data found through the databases,

comparing the results of these studies to the UNESCO MIL Assessment Framework

standards. The discussion section of this study will compare the MIL Assessment

Framework performance criteria and the results presented by the researchers, and try to

classify the skill in three categories, based on this study's author interpretation. The

categories are as follows:

1) **Well Developed**: those skills that match the performance criteria aim;

2) **In Development – Need More Efforts/Research**: skills that are being

   worked/researched but it still need more efforts in the area to match the

   performance criteria. Also those that had inconclusive results and need more

   research in order to have a better understanding of the situation in Brazil;

3) **Need Development/More Research**: this category will refer to those skills that

   did not match the performance criteria. However, this does not mean the skills is

   not being studied in Brazil, but there was not enough or no data at all to be able to

   draw a conclusion.

Lastly, the author will attempt to suggest paths that could lead to an improvement on

the MIL skills of young Brazilians.

## 3. Results

In this section, we will discuss each of the different performance criteria presented by the UNESCO MIL Assessment Framework, based on the review of the available sources. Each subsection will highlight data and reports regarding each individual criteria, invoking extra criteria to help illustrate the literature as needed.
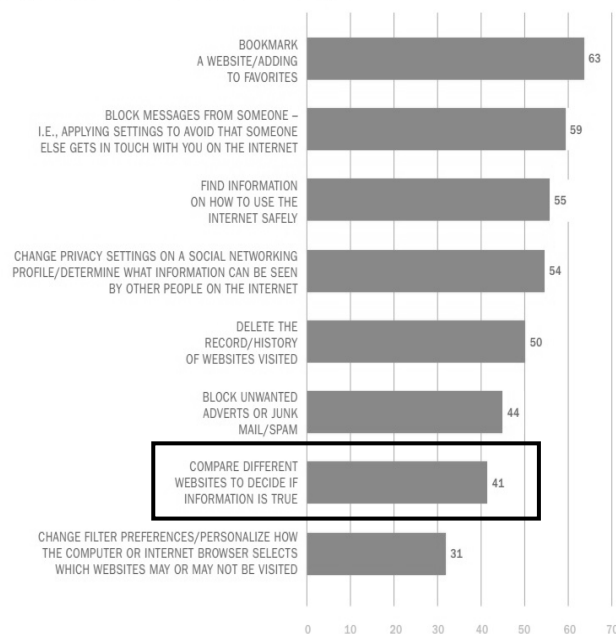
### 3.1 Assessment of Information

In this subsection, we will display all the first nine criteria embedded in the Assessment of Information MIL matter. According to the document, the "Media Information (MI) literate person is able to assess, analyze, compare, articulate and apply initial criteria for assessment of the information retrieved and its sources, as well as evaluate media and information providers in society" (UNESCO, 2013; p. 132). The main aspect here seems to lay in the ability to make sure the information you gather on the internet has a way of being proved correct. With the advent of the ICTs, the number of information available on the internet has increased immeasurably throughout the years, but so has the ease of publishing any material without any critical revision. Thus, the ability to distinguish and evaluate information is a necessity, especially for online research.

## A1. Define Assessment Criteria

CGI.br. (2012). *ICT Kids Online Brazil 2012*. São Paulo, Brazil.

CHART 10
**INTERNET SKILLS OF CHILDREN (2012)**
Percentage of the total number of Internet users from 11 to 16 years old

| Skill | Value |
|---|---|
| BOOKMARK A WEBSITE/ADDING TO FAVORITES | 63 |
| BLOCK MESSAGES FROM SOMEONE – I.E., APPLYING SETTINGS TO AVOID THAT SOMEONE ELSE GETS IN TOUCH WITH YOU ON THE INTERNET | 59 |
| FIND INFORMATION ON HOW TO USE THE INTERNET SAFELY | 55 |
| CHANGE PRIVACY SETTINGS ON A SOCIAL NETWORKING PROFILE/DETERMINE WHAT INFORMATION CAN BE SEEN BY OTHER PEOPLE ON THE INTERNET | 54 |
| DELETE THE RECORD/HISTORY OF WEBSITES VISITED | 50 |
| BLOCK UNWANTED ADVERTS OR JUNK MAIL/SPAM | 44 |
| COMPARE DIFFERENT WEBSITES TO DECIDE IF INFORMATION IS TRUE | 41 |
| CHANGE FILTER PREFERENCES/PERSONALIZE HOW THE COMPUTER OR INTERNET BROWSER SELECTS WHICH WEBSITES MAY OR MAY NOT BE VISITED | 31 |

Cartola. (2011, December 20). *Study Shows that the digital generation cannot research*. Terra Notícias.

In the School Nossa Senhora das Graças, in São Paulo, the concern with internet research guidance started in 2009. The school's educators saw the necessity to create an online structure that could help students with schoolwork. **With that in mind, the "Internet research paths" was created, a digital tool that discuss some research and assessment/evaluation of information.** In addition to teachers leaving tips of trusted addresses, students can post information retrieved from websites so teachers can assess its accuracy.
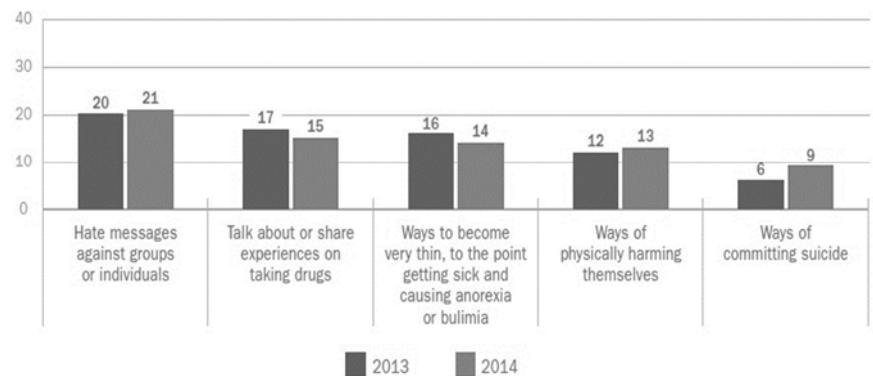
Mendonça APB. (2013). *Quality assessment criteria for health.* Rio de Janeiro: Fundação Oswaldo Cruz, Escola Nacional de Saúde Pública Sergio Arouca.

The efforts for the assessment/evaluation of the quality of Brazilian health information websites are minimal before this informational ocean. Thus, **the aim should be to guide Internet users to check the quality of gathered contents on the web.**

A2. Create/Use Assessment Criteria

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY FREQUENCY OF SITUATIONS EXPERIENCED AS A RESULT OF INTERNET USE IN THE LAST 12 MONTHS (2013–2014)
Percentage of the total number of Internet users 11 to 17 years old

| | Hate messages against groups or individuals | Talk about or share experiences on taking drugs | Ways to become very thin, to the point getting sick and causing anorexia or bulimia | Ways of physically harming themselves | Ways of committing suicide |
|---|---|---|---|---|---|
| 2013 | 20 | 17 | 16 | 12 | 6 |
| 2014 | 21 | 15 | 14 | 13 | 9 |

Albach, J. S. (2012). *The uses that young people make the Internet: relations with school.* (Master). Faculty of Education. University of São Paulo, São Paulo, Brazil.
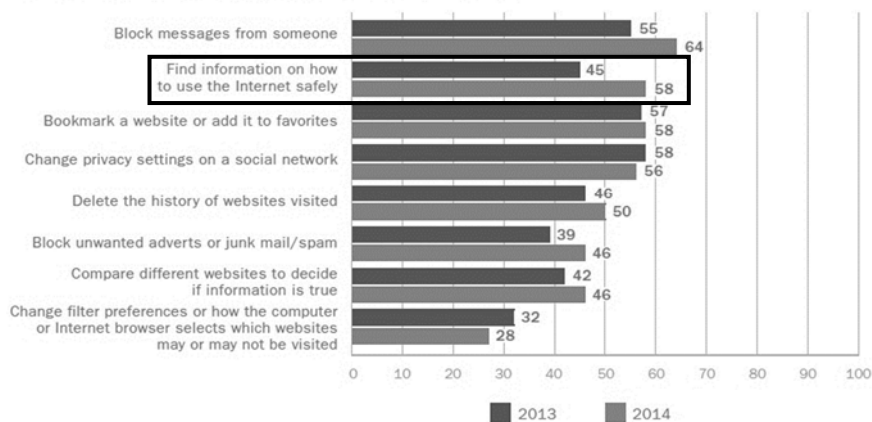
However, we need to highlight that their speech [the students] manifest relevant points regarding school knowledges. **They perceived that it is necessary, in a mean like the Internet, where there is a plethora of sources, to make a brief assessment, choose criteria. This might indicate that, somehow, the school enabled the learning which understands that in order to construct knowledge it is necessary to resort to several sources, search for texts where something is more detailed, which demands a more complex and elaborated knowledge than what is needed to just summarize a text.**

A3. Select and Summarize Information

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY INTERNET SKILLS (2013 – 2014)
Percentage of the total number of Internet users 11 to 17 years old

| Internet Skill | 2013 | 2014 |
|---|---|---|
| Block messages from someone | 55 | 64 |
| Find information on how to use the Internet safely | 45 | 58 |
| Bookmark a website or add it to favorites | 57 | 58 |
| Change privacy settings on a social network | 58 | 56 |
| Delete the history of websites visited | 46 | 50 |
| Block unwanted adverts or junk mail/spam | 39 | 46 |
| Compare different websites to decide if information is true | 42 | 46 |
| Change filter preferences or how the computer or Internet browser selects which websites may or may not be visited | 32 | 28 |

A4. Understand Information Importance/Purpose

Castro, S. A. (2011). *Diagnosis on the media influence on the school knowledge and the everyday of high school students*. Horizonte Científico, 5(2).

**However, when referring to the media in general, students agree that these are useful for the whole society in many ways, as to entertain, inform or even learn. Nevertheless, always with the awareness that the use of these tools should be done properly, as many think these media manipulators of opinion.**

## A5. Interpret Information

OECD. (2015). *Students, Computers and Learning: Making the Connection.* OECD Publishing. Paris.

| | Performance in digital reading |
|---|---|
| | Mean score |
| OECD average | 497 |
| Singapore | 567 |
| Korea | 555 |
| Hong Kong-China | 550 |
| Japan | 545 |
| Canada | 532 |
| Shanghai-China | 531 |
| Estonia | 523 |
| Australia | 521 |
| Ireland | 520 |
| Chinese Taipei | 519 |
| Macao-China | 515 |
| United States | 511 |
| France | 511 |
| Italy | 504 |
| Belgium | 502 |
| Norway | 500 |
| Sweden | 498 |
| Denmark | 495 |
| Portugal | 486 |
| Austria | 480 |
| Poland | 477 |
| Slovak Republic | 474 |
| Slovenia | 471 |
| Spain | 466 |
| Russian Federation | 466 |
| Israel | 461 |
| Chile | 452 |
| Hungary | 450 |
| Brazil | 436 |
| United Arab Emirates | 407 |
| Colombia | 396 |

Valle, L. H. C. N. (2011). *One computer for each student: trajectory of the student's research and critical thinking in the school.* (Master), Pernambuco Federal University, Pernambuco, Brazil.

The findings and conclusions of the students lead us to realize that **they interpret their research and what they had on it, often even changing their opinions about a certain topic.** Some students, when searching the initial pages, make a new search because they are not fully satisfied with the information, reaching the stage of interpretation.

A6. Distinguish Censorship/Editorials

Brazil. (2015). *Youth Rights. Resources for the Debate.* 3rd National Youth Conference. SNJ – National Youth Secretary.

**<u>In the context of uninterrupted flow of information which origin is often impossible to track, distinguish right from the doubtful, actual news from slander, it is often a task that requires critical skills and judgment for which young people have not been prepared in traditional training environments.</u> The democratic principle of non-censorship to any content that circulate in the media has the corollary that the contents of these diffusers agents can be held responsible for its effects.**

A7. Describe Target Audience of Information

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY PERCEPTION REGARDING THEIR INTERNET SKILLS
PERCENTUAL SOBRE O TOTAL DE USUÁRIOS DE INTERNET DE 11 A 17 ANOS [1]
PERCENTAGE OF THE TOTAL NUMBER OF INTERNET USERS FROM 11 TO 17 YEARS OLD [1]

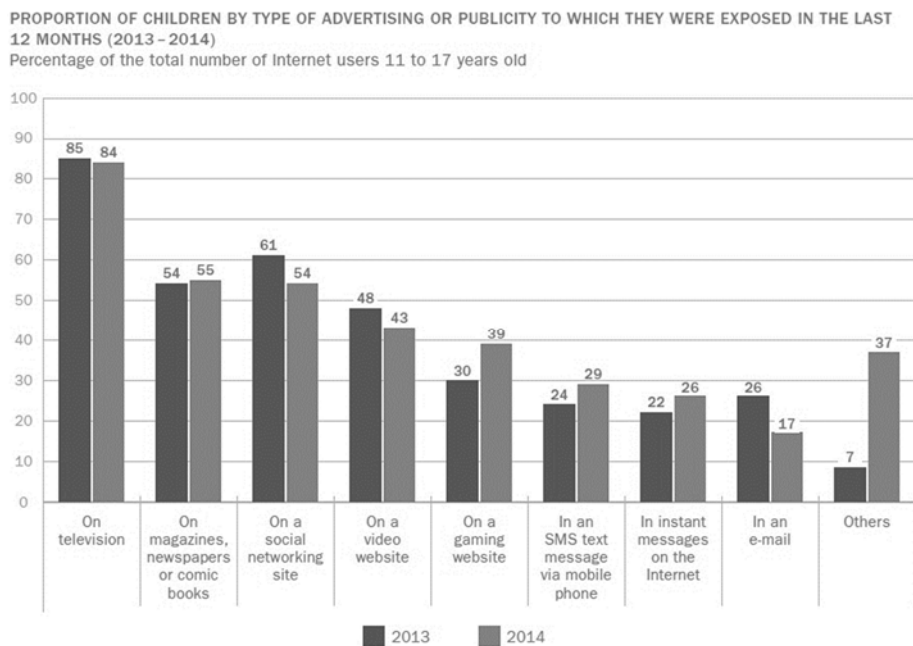| Percentual (%) Percentage (%) | Há muitas coisas na Internet que são boas para crianças ou adolescentes da mesma idade *There are a lot of things on the Internet that are good for children of the same age* | | | |
|---|---|---|---|---|
| | Verdadeira *Very True* | Mais ou menos verdadeira *A bit true* | Não é verdadeira *Not true* | Não respondeu *Did not answer* |
| TOTAL | 73 | 21 | 6 | 0 |

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY PERCEPTION REGARDING THE PRESENCE OF POTENTIALLY BOTHERSOME CONTENT ON THE INTERNET
PERCENTUAL SOBRE O TOTAL DE USUÁRIOS DE INTERNET DE 9 A 17 ANOS [1]
PERCENTAGE OF THE TOTAL NUMBER OF INTERNET USERS FROM 9 TO 17 YEARS OLD [1]

| Percentual (%) Percentage (%) | Sim *Yes* | Não *No* |
|---|---|---|
| TOTAL | 80 | 18 |

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A8. Identify Advertisement

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY TYPE OF ADVERTISING OR PUBLICITY TO WHICH THEY WERE EXPOSED IN THE LAST 12 MONTHS (2013 – 2014)
Percentage of the total number of Internet users 11 to 17 years old

| | On television | On magazines, newspapers or comic books | On a social networking site | On a video website | On a gaming website | In an SMS text message via mobile phone | In instant messages on the Internet | In an e-mail | Others |
|---|---|---|---|---|---|---|---|---|---|
| 2013 | 85 | 54 | 61 | 48 | 30 | 24 | 22 | 26 | 7 |
| 2014 | 84 | 55 | 54 | 43 | 39 | 29 | 26 | 17 | 37 |

CGI.br. (2013. *ICT Kids Online Brazil 2013* São Paulo, Brazil.

Finally, it is worth noting that the interaction of young Internet users with advertising on social networking websites is significant. **Among those who had their own profile on a social network, 57% claimed to have liked, 36% shared, 21% not liked and 20% blocked certain advertising or publicity to which they were exposed on social networks.**

A9. Identify/Verify Additional Sources

Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil.

We also investigated what was the attitude of the student when faced with the results presented by a search engine, during a schoolwork research. **No student reported opening the first website displayed on the results page, 64% said they would open some given sites on the results page and check which ones relates to the subject. In addition, 36% said that they read the summary of each presented website on the search engine and open only the ones they think to be related**

36

**to the subject.** This result seems encouraging, since it goes against the common discourse that students usually open the first page that appears when you search the Internet. However, caution is needed when taking conclusions, since there is the risk that some students have chosen the options that they thought were desired by us, the researchers.

## 3.2 Evaluation of Information

In this section, the data and literature related to the Evaluation of Information MIL matter will be displayed. According to the MIL Assessment Framework the "MI literate person is able to evaluate and authenticate information and media content gathered and its source and media and information providers in society" (UNESCO, 2013; p. 133).

B1. Define Evaluation Criteria

Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil.

(…) **in relation to student's search preferences, it calls our attention that they prefer Wikipedia because they believe it to be a source of reliable information.** As it has already been said here, the information in this virtual encyclopedia are built communally by anyone, regardless of being a Wikipedian. Moreover, while such information is reviewed, we still can come across information that has yet to be checked. Thus, it is necessary that students know the website from where they extract information better. One way would be teachers guiding students regarding the reliability of websites.

Del Giglio, A., Abdala, B., Ogawa, C., Amado, D., Carter, D., Gomieiro, F., . . . del Giglio, A. (2012). *Quality of internet information available to patients on websites in Portuguese*. Revista da Associação Médica Brasileira, 58, 645-649.

Patients and their relatives often look for information about their diseases on the internet. Diabetes mellitus (DM), systemic arterial hypertension (SAH), and acute myocardial infarction (AMI) are the most prevalent in Brazil, thus, information on these pathologies is extremely searched for on the internet. For this reason, **this study attempted to evaluate the quality of information available in Portuguese on the Web regarding these disorders. The available information in Portuguese on the internet regarding the three pathologies selected (DM, SAH, and AMI) is quite often inadequate and insufficient.**

B2. Aware of the Subjectivity of Evaluation

The author could not find any production related to the understanding and awareness of the subjectivity of evaluation regarding students.

B3. Identify and Unionize Related Information

Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil.

**When we combine search with selection of information, we find that most students usually extract information from more than one website. This attitude seems to demonstrate that the students bother to supplement the information found or feel the need to do so, when they do not find everything they need in one website.** However, in spite of using more than one source, most of the students do not quote the researched papers/website on which they did the research, claiming they do not have the habit of writing the references or they forget to do so.

B4. Examine Sources

Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil.

During a web search, we usually find a lot of information that are not always reliable, making it important the practice of verifying the reliability of the information. Thus, the students had to answer if they do such verification. **Most of them (67%) said they check the reliability of the information, 27% said they did not do it, 3% created a different option and 3% did not answer.** Based on this data, it appears that the majority of students that participated this research know that you cannot trust all information published on the internet, representing a positive point in the internet research process.
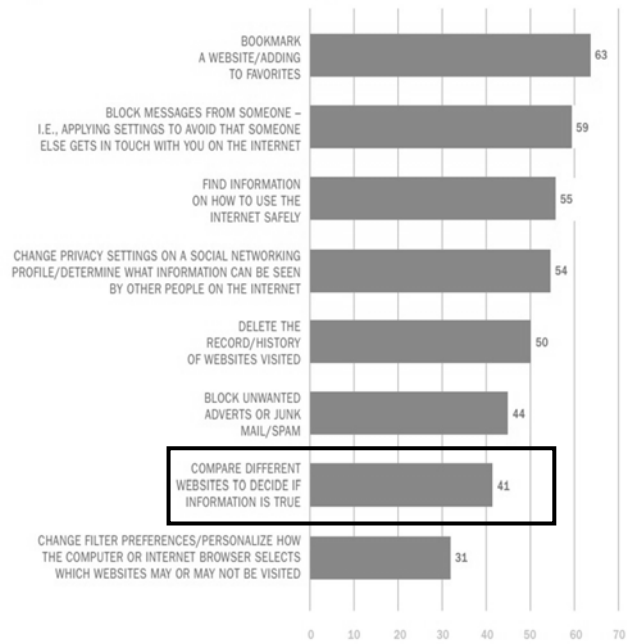
B5. Evaluate Information

Valle, L. H. C. N. (2011). *One computer for each student: trajectory of the student's research and critical thinking in the school.* (Master), Pernambuco Federal University, Pernambuco, Brazil.

**Thus, we clearly see the intention to analyze the information and evaluate its validity, starting from an initial website selection, in order to complete the research.**
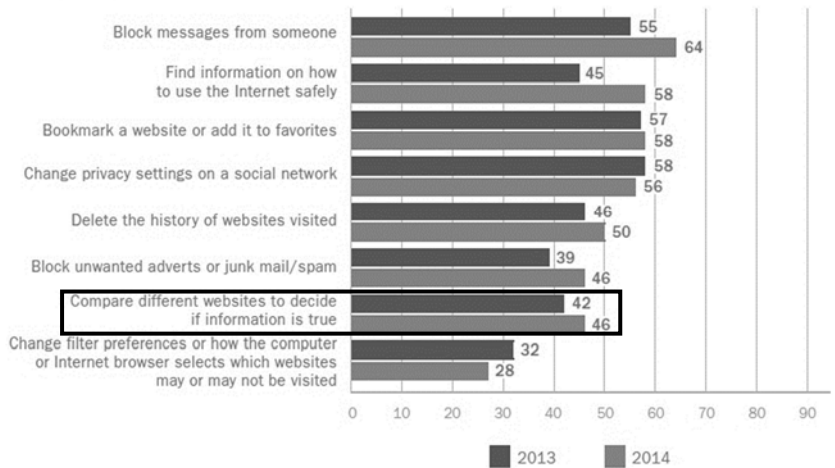
B6. Compare Information

CGI.br. (2012). *ICT Kids Online Brazil 2012*. São Paulo, Brazil.

CHART 10
INTERNET SKILLS OF CHILDREN (2012)
Percentage of the total number of Internet users from 11 to 16 years old

| Skill | Percentage |
|---|---|
| BOOKMARK A WEBSITE/ADDING TO FAVORITES | 63 |
| BLOCK MESSAGES FROM SOMEONE – I.E., APPLYING SETTINGS TO AVOID THAT SOMEONE ELSE GETS IN TOUCH WITH YOU ON THE INTERNET | 59 |
| FIND INFORMATION ON HOW TO USE THE INTERNET SAFELY | 55 |
| CHANGE PRIVACY SETTINGS ON A SOCIAL NETWORKING PROFILE/DETERMINE WHAT INFORMATION CAN BE SEEN BY OTHER PEOPLE ON THE INTERNET | 54 |
| DELETE THE RECORD/HISTORY OF WEBSITES VISITED | 50 |
| BLOCK UNWANTED ADVERTS OR JUNK MAIL/SPAM | 44 |
| COMPARE DIFFERENT WEBSITES TO DECIDE IF INFORMATION IS TRUE | 41 |
| CHANGE FILTER PREFERENCES/PERSONALIZE HOW THE COMPUTER OR INTERNET BROWSER SELECTS WHICH WEBSITES MAY OR MAY NOT BE VISITED | 31 |

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.

PROPORTION OF CHILDREN BY INTERNET SKILLS (2013–2014)
Percentage of the total number of Internet users 11 to 17 years old

| Skill | 2013 | 2014 |
|---|---|---|
| Block messages from someone | 55 | 64 |
| Find information on how to use the Internet safely | 45 | 58 |
| Bookmark a website or add it to favorites | 57 | 58 |
| Change privacy settings on a social network | 58 | 56 |
| Delete the history of websites visited | 46 | 50 |
| Block unwanted adverts or junk mail/spam | 39 | 46 |
| Compare different websites to decide if information is true | 42 | 46 |
| Change filter preferences or how the computer or Internet browser selects which websites may or may not be visited | 32 | 28 |

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B7. Understand the Life Cycle of Information

| | |
|---|---|
| Valle, L. H. C. N. (2011). *One computer for each student: trajectory of the student's research and critical thinking in the school.* (Master), Pernambuco Federal University, Pernambuco, Brazil. | None of the participants insisted on data that did not respond to the questions proposed initially by the research, which brings us to an interesting conclusion: **the web dynamic makes students to have more haste and let go of the information considered useless or obsolete.** |

B8. Make Judgements Based on Gathered Information

| | |
|---|---|
| Teixeira, S. A. (2011). *Doing school research on the internet.* (Master), Minas Gerais Federal University, Belo Horizonte, Brazil. | **When we add the percentage of students ranging from literal copy to some modifications to the original text, we have a total of 79%, that is, most students do not seem to position themselves critically about the information found.** |
| Valle, L. H. C. N. (2011). *One computer for each student: trajectory of the student's research and critical thinking in the school.* (Master), Pernambuco Federal University, Pernambuco, Brazil. | **The findings and conclusions of the students lead us to realize that they interpret their research and what they had on it, often even changing their opinions about a certain topic.** Some students, when searching the initial pages, make a new search because they are not fully satisfied with the information, reaching the stage of interpretation. |

B9. Provide Arguments

| | |
|---|---|
| Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil. | (…) we found that most students see research only as a search for information, and only some relate this search with learning. Others still consider research a school task, and a minority related research with knowledge and learning. **No student mentions anything about analyzing data, nor drawing conclusions from such analysis.** And, as we have seen, most of the results were copies. |
| Valle, L. H. C. N. (2011). *One computer for each student: trajectory of the student's research and critical thinking in the school.* (Master), Pernambuco Federal University, Pernambuco, Brazil. | **Thus, the student explains how he/she built their own reasoning from what was shown in the research, bringing another critical thinking clue through the searches.** |

### 3.3 Organization of Information

In this section, we will display the data and literature about the Organization of Information MIL matter. According to the MIL Assessment Framework the "MI literate person is able to synthetize and organize information and media content gathered" (UNESCO, 2013; p. 133).

However, the amount of information available regarding this section was remarkably small, and the part that was actually available showed a lower level in organization regarding young Brazilians. With that in mind, the following criteria where not found in

the literature: Understand the Importance of Indexing Information; Use Tools and Format

for Organization; Translate Information to Different Media Formats; and Synthetize

Information from Several Formats.

With that in mind, we will present the available data to this moment and discuss

possibilities and reasons during the discussion section.

C1. Take/Record Notes and Summarize

Teixeira, S. A. (2011). *Doing school research on the internet*. (Master), Minas Gerais Federal University, Belo Horizonte, Brazil.

(…) **more than half of the teachers say that the papers presented by the students are copies, where 50% declared that the students transfer the copied text to Microsoft Word and format it and 33% said that students transfer the text without formatting it.** In addition, 17% affirmed that the text is composed of a summary and no one mentioned that students actually paraphrase or develop their own conclusion from the analysis of the data.

C2. Revise Information

Rocha, T.L. (2013). *Plagiarism on School Work: perspectives of teachers and students in two schools of Monte Carmelo/MG.* (Master), University of Uberaba, Uberaba, MG, Brazil.

| Subject | Registered speech | Category |
|---------|-------------------|----------|
| S1 | "I go to the Internet and get lot of things… read some parts and separate the most important… put my name and deliver" | Appropriation<br><br>Copy |

| | | |
|---|---|---|
| S2 | "… I access Google, type a word, a lot of things show up, I choose one and print,… it comes out ready" | Copy |
| S4 | "I take everything from the Internet… there are good works in there" | Copy |
| S7 | "I search for what the teacher asked on the Internet, and then I choose a completed work that showed up and that looks good… I then copy it to Microsoft Word, put my name…. I deliver on the set day… I put only my name… the teacher doesn't ask to put the sources" | Appropriation<br><br>Copy |

*Adapted from Rocha, T.L. (2013)*

C3. Group and Organize Information

CGI.br. (2014). *ICT Kids Online Brazil 2014*. São Paulo, Brazil.



PROPORTION OF CHILDREN BY INTERNET SKILLS (2013–2014)
Percentage of the total number of Internet users 11 to 17 years old
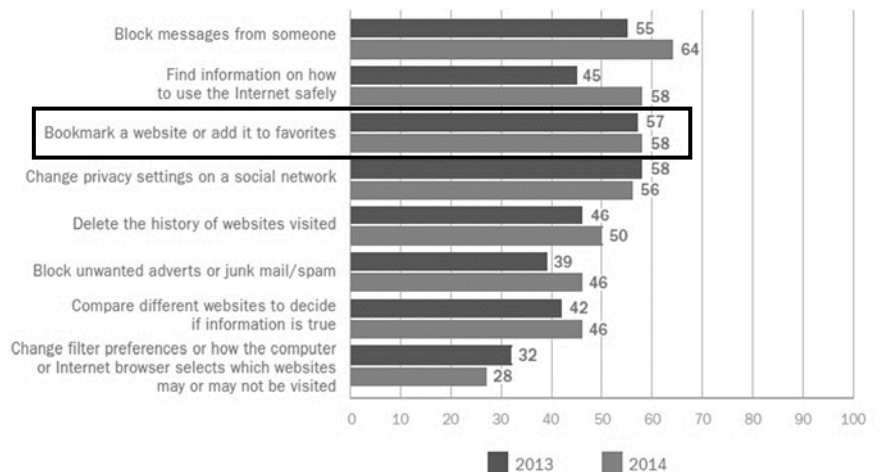
The graph above can also be used for the next criteria titled **C6. Store Relevant Information**.

## 4. Discussion

The research for data regarding the evaluation skills of Brazilian students brought us a handful of interesting insights about the reality of the level of literacy of students throughout the country. In this section, we will analyze all the three major MIL subject matters, trying to clarify the details expressed by the results of the bibliographic research that guided this study.

Although this study is not analyzing the initial matter in the Evaluation component, Understanding of Information and Media, we think it is appropriate to present some brief examples of how this is being treated in the country, as a mean to illustrate the following discussion. Since the Understanding of Information and Media matter is categorized at a basic level, it plays an important role in the entry levels of developing the Evaluation Skills. Before assessing and evaluating information and media, the individual needs to understand several aspects of the world around those.

One important point in the MIL Assessment Framework, regarding the Understanding of Information and Media, is that the individual needs to be able to "identify underlining ideologies and values, and question how social, economic, political, professional and technological forces shape media and information content" (UNESCO, 2013; p. 57). Conti et al. (2010) conducted a study with 386 young Brazilians, all enrolled in a private school in the state of São Paulo, where she had as her research question the following: "how much aware are the young Brazilians of the role of the TV in their development and choices". According to

her results, 95% of the subjects understand that the media has effects on the lives of the young population, which the main aspect being related to beauty and body standards (Conti et al. 2010).

Another aspect of this matters is the data brought by the 2014 ICT Kids Online research carried in Brazil by the Internet Steering Committee (CGI.br, 2014), which asked 2.105 children and adolescents of their perception regarding the presence of potentially bothersome content on the internet. In all five regions of Brazil, 80% of the subjects said to understand the fact that a lot of content on the internet can be bothersome (CGI.br, 2014; p. 342). It shows a slight increase in comparison to the same research on previous years: in 2012, 72% and in 2013 77%, said to recognize the existence of bothersome content on the internet.

Castro et al. (2011) conducted a research with 1440 high school students, where they found out that all students agreed on the importance of the media, especially the TV, for society, however, they also noted that caution is important when interpreting the messages conveyed.

Like anywhere else in the learning span, individuals have previous knowledge that they constructed during their daily lives. This study believes that, just like the Brazilian educator Paulo Freire, "reading the world precedes reading the word" (Freire, 1989), which fortifies the importance of understanding the media that one already knows for living surrounded by it, before stepping in the level of learning the skills related to it.

With that in mind, we can move on to the analysis of the content presented on the results

section of this study, aiming to understand how the Evaluation Skills are being developed in

Brazil.

### 4.1 Assessment of Information and Media discussion

According to the MIL Assessment Framework, the Assessment of Information subject

matter is rated as an intermediate level skill inside the Evaluation component, which means

that an individual has good knowledge and skills, but still has gaps on certain aspects of their

literacy (UNESCO, 2013; p. 60).

The first criterion expressed in **A1** (Define Assessment Criteria), understands that the

individual is capable of defining their own criteria to analyze the information gathered on any

media. We can observe in the data released by the CGI.br that back in 2012 41% of the survey

respondents said that they compare different websites to decide if the information is true.

Although it is a small number for such an important skill, we only see an increase of 5% in

2014 (CGI.br, 2014). Which may indicate that more efforts towards this criterion might be

needed.

One example of activities being led towards this skill is expressed by Cartola (2011,

December 20), in an article on an well-known news website in Brazil, when they point that

some schools in São Paulo have programs to help students learn how to assess and evaluate

information that they gather. Unfortunately, though the specific details on their projects were

not available at the time of this research, we can see that some schools are working on developing students capable of assessing the information they encounter.

Another recurrent aspect of the assessment of evaluation found during this research was the attention given to health information websites. Although not directly related to the target audience of this study, we saw researches, as the one Mendonça (2013) conducted, that assessed health information websites available in Portuguese, and concluded that the quality of the information was very low. Further, the author understands and asks for more guidance for individuals regarding their assessment skills. Mendonça's study was found interesting because, according to the author, people of all ages, including a range that is inside the audience on this study, search for health information on the Internet.

As a result of the above mentioned, we clearly see that there are efforts towards the criterion currently being analyzed. However, they are not yet enough. More specific actions are needed concerning the assessment criteria of young Brazilians.

The creation and use of assessment criteria follows the previous aspects of defining the assessment criteria, and the data from the 2014 ICT Kids Online Brazil shows us the perception of Brazilian young about their own criteria. According to the data, the respondents understand different aspects of their situations on the Internet. The graph displayed in section **A2** shows how the respondents categorize the situation they encountered while online, which shows us that the students used assessment criteria when dealing with online websites. The

question was centered on negative aspects of their Internet lives, which leaves us questioning

about other aspects of their assessment.

In addition, Albach (2012) shows how the students that she studied understand the

importance of having assessment criteria when researching, especially on the Internet, with a

vast flow of information. The author goes on and mentions that these students might have

developed this idea of the need of criteria when researching online because of the hypertext

environment that most of them are already included (Albach, 2012; p. 151). Today's young

have a very established worldwide web at their disposal since they are born, which may

contribute to a self-developed skill towards navigating inside the hypertext format.

Here we can also observe efforts and actual examples of the creation and use of assessment

criteria by the young Brazilians. However, we can also observe some contradiction, like the

one noted by Rocha (2013), also cited in C2, where the students she researched did not have

many criteria when retrieving information from the Internet for school work, while most of

them only copied the material, printed and delivered it to the teachers. The issue of plagiarism

and copy of works on the Internet will be discussed later in more extent, but we can recognize

a need for more efforts on the enforcement of this criterion as well.

The selection and summarization of information was moderately present in the literature

reviewed, like in the case of the data presented by the ICT Kids Online Brazil 2014 (**A3**)

where it shows that the students knew how to select information on how to use the internet

safely. This is one of many possible examples, but it represents a significant number of young

Brazilians. However, it is also possible to argue that 58% is a small number to consider this

criterion as a well-developed one. But then again, if we attempt to the percentage of

respondents in 2013 (45%), we can see a 13% increase, which shows some improvement in

general. Of course, further exploration of this criterion is needed and should be addressed.

The next criterion in the series brings the need to Understand Information Importance and

Purpose (**A4**). According to Castro et al. (2011), when they surveyed 1440 students of a

school ranging from 13 to 36 years-old (most of the respondents were between 14 to 17,

where the older ones might be a case of grade repetition and/or returnees that left school years

before), they agreed that media is important to society in many ways. Nonetheless, the Castro

stresses that they also understood the need to take precautions when dealing with these media.

They understood that media can fill several aspects as to inform and entertain, but they might

also try to manipulate the information they release in different ways.

Even though Castro's study was limited to one school in particular, the number of

respondents show a significant number, which may show us that students do understand the

purpose of media. Thus, it is possible to say that students have enough awareness about the

purpose of media, be it a good or not so good purpose.

Following up, **A5** enters the Interpretation of Information criterion, and here we use the

2015 OECD's (Organization for Economic Co-operation and Development) *Students,*

*Computers and Learning: Making the Connection,* which is based on the 2012 PISA

(Programme for Student International Assessment) results, and displays the results of the

performance in digital reading of the studied countries. In this matter, we can see that Brazil is

a very low position among the participant countries, above only of the United Arab Emirates

and Colombia. This specific skill was observed through an overall browser activity analysis

plus a task-oriented browsing activity. Students in Brazil achieved a low medium on the

results of this digital reading exercise, which indicates that they still might have difficulties in

interpreting the information they see on screen.

The results of the OECD study might be related to another result that will be explored in

more detail later on, but invokes the results used on **C2**, where it shows Rocha's (2013) study

shows that many students still maintain a culture of copying finished works out of the internet.

This kind of practice, that does not require any interpretation of the content being studied,

might be one aspect that leads to the low achievement on the OECD study.

However, in Valle's (2011) master dissertation, we can see an opposite result regarding the

interpretation of information by young Brazilians. The author found that the students did

interpret the information they found online for a schoolwork, sometimes changing their

opinions about the topics. This proposes a opposition to the OECD study, however, in a much

smaller scale, since it did not involve the whole country. Thus, that shows us that there are

students capable of interpreting the information they gather, but it is not sufficient according

to the OECD, which shows us that more investigation in the area is needed.

In the next criterion, we have the skills to distinguish censorship and/or editorials on the information gathered. The data exposed in **A6** is a segment of the National Youth Conference, which is held in Brazil aiming to bring young Brazilians together to discuss subjects that directly relate to them. In the 2015 edition, the resources for debate brought the media as one aspect for discussion during the conference, based on the previous conference results.

In the above-mentioned segment, we can see that on the previous conference, the participants understood the need for critical skills to "distinguish right from doubtful, actual news from slander" (Brazil, 2015), and they also noted that these skills are not being taught in traditional education environment. The citation also mentions that they understand that there is a basic democratic principle for the non-censure of media channels. That brings an interesting analysis, which shows that students understand the need, but need better guidance regarding their skills in this area.

Next on the list, we have the data presented in **A7**, regarding the ability to describe the target audience of information. The data in this section is extracted from the 2014 ICT Kids Online (CGI.br, 2014), and shows the perception of young Brazilians regarding their perception about good content on the internet that is aimed at children and adolescents. The variation among the existing ICT Kids Online researches did not present a big difference, with results ranging from 71% to 73% of children believing that that are a lot of good content for

their age on the internet. Furthermore, 80% of the respondents in 2014 said that they

understand that there is also bothersome content on the worldwide web. This perception saw

an increase of 3% since the 2012 study (CGI.br, 2012).

The results above show us that many young Brazilians perceive themselves as able to

distinguish the target of the information that they find/gather on the Internet. However, we

must attempt to the fact that this was a perception of the students about their own skills. While

we have theorists like Bandura (1977), that developed the self-efficacy theory, which indicates

that when individuals believe they can develop a given ability, they have a higher chance of

developing said skill. With that in mind, we need further studies that evaluate these skills

through a specific activity, in order to have a more conclusive result.

The next criterion on the MIL Assessment Framework analyses the skill of individuals to

Identify Advertisement on the information they gather/found (**A8**). The first graph presented

on this section of the results shows the proportion of young Brazilians that recognized some

kind of advertisement in media. Most of the respondents (84% in 2014 and 85% in 2013) said

to identify advertisements on television, which the second place with the most advertisement

identified belonging to social network websites (CGI.br, 2014). Furthermore, the 2013 ICT

Kids Online Brazil brings an extra information about the advertisement that young Brazilians

found on social networks: 57% liked the advertisement that they encountered and 36% shared

the ones they liked. This shows that the respondents not only identify the advertisements, but

they also share on their social networks.

This criterion seems to be well established among young Brazilians, however, it is still necessary to work with students on the impact of advertisement, and how they affect their lives in society, just like the study of Conti et al. (2010), cited in the beginning of the discussion section.

Next on the analysis is the skill to Identify/Verify Additional Sources regarding the information gathered by young Brazilians (**A9**). In the study conducted by Teixeira (2011) for her master dissertation, she surveyed 33 students and interviewed 9 that used the internet constantly, and found that 64% of students would go further than the first webpage displayed on the first result of the search engine used, and would open more sites related to the subject to check extra information. Nevertheless, the author calls our attention to the fact that we need to look at these results with some concern, because the students might have chosen the option on the questionnaire that they thought the research would like them to choose.

When researching the students' perception of a specific subject, we might run into the same problem cited by Teixeira, thus asking for a different approach that can evaluate their actual skills through an activity/test.

This concludes the first subject matter of the MIL Assessment Framework, Assessment of Information, and leaves us with some consolidated skills like: **A6** Distinguish Censorship/Editorials; **A7** Describe target Audience of Information; **A8** Identify

Advertisement; the other skills either need more study or are clearly lacking in development,

calling for more guidance and training. Table 4 presents a summary of this subject matter.

Table 4 - Assessment of Information Situation

| MIL SUBJECT MATTER | PERFORMANCE CRITERIA | SITUATION |
|---|---|---|
| ASSESSMENT OF INFORMATION | A2. Create/Use Assessment Criteria<br>A4. Understand Information Importance/Purpose<br>A6. Distinguish Censorship/Editorials<br>A7. Describe Target Audience of Information<br>A8. Identify Advertisement | **Well Developed** |
| | A1. Define Assessment Criteria<br>A3. Select and Summarize Information<br>A9. Identify/Verify Additional Sources | **In Development<br>Need More Effort/Research** |
| | A5. Interpret Information | **Need Development/Research** |

Analyzing the table above we can draft a few strategies to improve the criteria that did not

meet the standards of the assessment framework.

At first, we can notice a contradiction when we look at A1 and A2. According to the results,

students were able to create/use assessment criteria, but there were not able to define their

own criteria. Such matter might be a reflection of how these assessment criteria might be

developed in education spaces. According to the results in A2, students were able to use

assessment criteria to identify different aspects of messages on the Internet, however, in order

to improve students ability to define an assessment criteria, it could be helpful to convey the importance of creating their own criteria, for different situations they will experience in the future, outside an umbrella of standards.

Another aspect of table 4 that needs to be addressed is A5 Interpretation of Information. Brazilian students received a low evaluation at the OECD digital reading test, which required them to go from one point to another through the reading of digital text, or hypertext. Hypertext presents new possibilities for reading, expanding the inter and intra-textual relations. However, as Braga (2005) notes that although hypertexts brings several similar aspects to traditional texts, like links being regarded as traditional intra-textual notes, and internet searches as library research, it is undeniable that hypertext also brings the need for new aspects of literacy. One important aspect for the improvement of hypertext interpretation is the need to develop sophisticated categorization skills, in order to not get lost in the "sea of information" available on the internet. The suggestion for educators would be to try to develop focus skills with students, aiming for a more organized reading process of hypertext.

### 4.2 Evaluation of Information Discussion

The MIL Assessment Framework ranks the Evaluation of Information as an advanced skill inside the Evaluation Skills Component (UNESCO, 2013; p. 61). In this section, we will analyze the data and literature contained in the 3.2 section of the results.

The first criterion presented in the section is the ability to Define Evaluation Criteria (**B1**). The MIL Assessment Framework defines this evaluation of information as being able to verify the following items: *accuracy, relevance, currency, reliability, and completeness* (UNESCO, 2013; p. 57). Although the data presented in **B1**, we can see in Teixeira's (2011) study that students prefer *Wikipedia* as a source of reliable information. However, it is well known that anyone can become a Wikipedian, which means a person that can edit and add any content to the online community encyclopedia. This show us that we need more work on the guidance regarding this criterion.

A further example of this case is the study of Del Giglio et al. (2012), where they evaluated the information about the three most searched health issues in Brazil. This study shows its relevance to this section because it cites that not only adults, but young Brazilians also research for this kind of information online. Their results showed that the websites do not have good quality information available to users, which shows again the need for training in this aspect.

The next criterion on the list of performances would be the awareness of subjectivity in the evaluation process (**B2**). However, this study could not identify any data that relates to this specific performance criterion. Nonetheless, it does not necessarily mean that it is not being worked, or neither that young Brazilians do not have this skill, but it shows the need for studies in this area.

The next criterion, Identify and Unionize Related Information (**B3**), is illustrated by

Teixeira's (2013) study when she mentioned that the students she observed did try to find

related information to increment their schoolwork researches. Still, she comments on the fact

that the students, most of the time, do not cite the sources where they found their information,

where some claimed to forget to do so. This is another aspect related to the culture of

plagiarism inside the school. While we understand that these young Brazilians care to identify

extra information and use it to supplement their research, we need a better approach to this

aspect, teaching the need to cite sources in every work/paper.

Teixeira's (2013) study is still presented on the next criterion, (**B4**) Examine Sources, where

it predicts that the individual is capable of examining the sources of information gathered, in

order to check its validity. In her work, 67% of students said to check the reliability of the

information that they find when searching the Internet, while 3% said that do not examine

these sources at all. It is a reasonable number of students examining their sources however, it

does not ask the students to describe how they do examine these sources. This leaves us with a

need for more detailed studies regarding this criterion.

Next, we have Valle's (2011) study supporting the next criterion, Evaluate Information (**B5**),

when she cites that the students she studied had the intention to evaluate the validity of the

information, but she did not exemplify the steps they took to do so. Nevertheless, as cited

before, the Mil Assessment Framework brings us some of the criteria to be used when

evaluation information: *accuracy, relevance, currency, reliability, and completeness* (UNESCO, 2013; p. 57). With that in mind, a suggestion for future studies would be to analyze how young Brazilians have developed, or need to develop these skills, in order to evaluate the information they gather.

Moving to the next criterion, we have the ability to Compare Information (**B6**). The results from the 2012 to the 2014 ICT Kids Online Brazil show that only a relatively small number of students compare different websites to verify the reliability of the information they search. In 2012 the researched shows that only 41% of the respondents answered that they compare the websites (CGI.br, 2012), with a 1% increase on the next year (CGI.br, 2013) and finishing at a 46% of respondents in 2014 (CGI.br, 2014). These numbers show that young Brazilians need to improve their skills to compare the information they find.

A similar result to the Compare Information criterion could be the A9 Identify/Verify Additional Sources criterion. The fact that 64% of the students in Teixeira's (2011) study responded to open more than the first website that they are delivered on an online search engine, shows that students might be comparing extra websites to develop their works. This does not, however, directly indicates the ability to actually compare the information for its reliability, but it might be one aspect to consider when constructing students ability to compare the information they use.

Forward, we have the need to Understand the Life Cycle of Information (**B7**) and the

importance of such cycle for research. Valle's (2011) study helps again in exemplifying this criterion, when she cites that "the web dynamic makes students to have more haste and let go of information considered useless or obsolete". This segment indicates that the new dynamism present in the model of hypertext might have helped students to understand that information can become quickly outdated. However, although we see good results here, we do not have an exact percentage of how many students to think like that. In addition, we need more studies that englobe different schools and regions of the country.

Next, in **B8** we have the criterion consisting of the ability to Make Judgements Based on Gathered Information. Teixeira (2011) explains that 79% of the students that participated on her research did not seem to have any critical position about the information that they found during the schoolwork. This is a very concerning number, when we know the importance of critically thinking about the information available to us, in order to create our own concepts.

On the other hand, Valle (2011) shows a different result when citing that the students she studied interpreted their research and in some cases, they changed their opinions based on the new information that they found. Since this results opposes the one that Teixeira (2011) shows us, we need further research on the topic, within a different research sample.

Lastly, we have the Provide Arguments (**B9**) criterion, which understands the ability to provide arguments based on the information gathered. In regards to this criterion, we look at Teixeira's (2011) work once again and observe that the author says that no student mentioned

anything about analyzing the data found and drawing conclusions from it. The author calls the attention to the fact that most students see research as a mere search for information, ignoring the need to provide their own ideas regarding the subjects that are part of their works.

However, we have an opposite results emerging from Valle's (2011) work again. In the case of this study the author explains that some students built their own ideas from the results of their researches, which illustrated the critical thinking ability that her study was based. This brings us again the need for more detailed studies in the area, in order to clear up the doubts left by the opposing studies.

This concludes the second part of the discussion, with all the results related to the Evaluation of Information. The results left us with not enough conclusions and a lack of studies in the area, especially concerning the Awareness of the Subjectivity in Evaluation (**B2**) criterion. Since this is considered by the MIL Assessment Framework as an advanced matter on the MIL of individuals, we clearly need more efforts and studies in regarding this subject matter. Once again, the following table brings a brief summary of this subject matter:

Table 5 - Evaluation of Information Situation

| MIL SUBJECT MATTER | PERFORMANCE CRITERIA | SITUATION |
|---|---|---|
| EVALUATION OF INFORMATION | B7. Understand the Life Cycle of Information | **Well Developed** |
| | B3. Identify and Unionize Related Information<br>B4. Examine Sources<br>B5. Evaluate Information<br>B6. Compare Information<br>B9. Provide Arguments | **In Development**<br>**Need More Effort/Research** |
| | B1. Define Evaluation Criteria<br>B2. Aware of the Subjectivity of Evaluation<br>B8. Make Judgments based on Gathered Information | **Need Development/Research** |

From the table above we can try to draw a few suggestion as well for the improvement of these criteria. Firstly, we should attempt for the fact that as in the previous section (A1 to A9) the definition of criteria needs better development. This might make us think about how educators convey the aspects and importance of defining the students' own criteria. In this case, we can go back to the same suggestion made in the previous section and point to the importance of promoting the ability of creating criteria for the evaluation in different situations.

Still regarding the definition of evaluation criteria, we should look back at the definition discussed by the Mil Assessment Framework, where it explains that the evaluation should be evaluated meeting the following points: *accuracy, relevance, currency, reliability, and*

*completeness* (UNESCO, 2013; p. 57). Material regarding these points can be easily accessed

on the internet, while several free resources for educators and students. Library websites

around the world bring information regarding the points for evaluation of information, as well

as educational sites like Edutopia (www.edutopia.org) or in Portuguese, a major educational

website as Nova Escola (www.revistaescola.abril.com.br) also has this information available.

As for the subjectivity in education (B2), educators needs to discuss the fact that the

evaluation made by each individual, might lead to different results, although some evaluation

following standards. Group discussions might help in understanding others way of evaluating

their information. In addition, this discussion could help with another criterion in need of

development, the making of judgements based on information (B8). Discussing the reasons

and subjectivity behind every individual evaluation might help on the students' ability to make

judgements based on the information they evaluated.

### 4.3 Organization of Information Discussion

The MIL Assessment Framework understand the Organization of Information as an

intermediate level matter inside the Evaluation Skills Components (UNESCO, 2013; p.61).

Furthermore, it explains the need for individuals "to master technical skills of organizing,

selecting and synthesizing media and information" (p. 57).

As already cited on the results section, the amount of information available for research was

very small, and the data presented in the results show a rather small development in the skills

contained in this subject matter. With that in mind, we will discuss the available information

and later, try to make suggestions to improve the organizational skills of information.

The first criterion contained in this subject matter is the skill to Take/Record Notes and

Summarize (**C1**), which in order to be able to organize information, the individual must be

able to take notes and summarize to help on the assessment and evaluation of information

gathered. In Teixeira's (2011) study the author says that teachers reported that most of the

student's papers are copies, where half of them copy the text to Microsoft Word and just

format it, where other 33% do not even format it. This is not directly related to ability to take

notes, but it shows that only copying and pasting in a word processor software does not

require any kind of summarization. This could relate to the criterion related to the skill of

using tools to format and organize information, which unfortunately did not have any direct

data available by the time of this study. Although it is not clear if students have refined the

skills to use word processing software, the act of copying and pasting in Microsoft Word

might show a low level of this skill. Formatting a copied text in Microsoft Word does not

require much ability.

Following on the same issue, the next criterion deals with the skill of individuals to Revise

Information (**C2**). Rocha (2013) conducted a study about plagiarism in schoolwork and

brought some examples of the students' practices during their research for such exercises. We

can see on the table on the results section, that most of the students copy and paste material

found on the Internet, without citing the work and putting their names as authors. This

constitutes the practices of copy and appropriation. The suggestions here would be to have

more guidance towards plagiarism in school and the importance of developing one's own

ideas towards the information gathered during research.

Lastly, we have the criterion regarding the skill to Group and Organize Information (**C3**), in

which we can go back to the ICT Kids Online Brazil results and look at the graph presented

on the respective section on the results. While it lists only one ability related to grouping and

organizing information, the graph shows that in 2014 68% of students reported being able to

bookmark a website or add it to favorites (CGI.br, 2014). Today's browsers make

bookmarking an easy an useful task, which help users organize information they find useful

on the internet, nonetheless, studies that focus on other grouping and organizing tools are

needed to further understand this aspect.

This brings us to the end of the discussion on this part. However, we had several criteria

that could not be analyzed since we did not have data available regarding those. Such situation

shows us the urgent need to explore this subject matter with more emphasis, aiming for

students with better organizational skills for information. Criteria like Importance of Indexing

information, Use of Tools and Format for Organization, Translation of Information to

Different Media Formats and lastly, Synthesis of Information from Several Formats were left

unanswered.

Following the previous sections model, table 6 brings a summary of the situation of this

subject matter.

Table 6 - Organization of Information Situation

| MIL Subject Matter | Performance Criteria | Situation |
|---|---|---|
| Organization of Information | C1. Take/Record Notes and Summarize<br>C2. Revise Information<br>C3. Group and Organize Information<br>C4. Understand the Importance of Indexing Information<br>C5. Use Tools and Format for Organization<br>C6. Store Relevant Information<br>C7. Translate Information to Different Media Formats<br>C8. Synthesize Information from Several Formats | **Need Development/Research** |

As noted above, this section brings the lowest development among all the criteria. Several

possibilities can emerge from this situation, and educators need to start focusing on tool to

help students understand the importance of the organization of information.

Starting with basic instruments like browser bookmarks, as the ones made available by

famous browsers like Google Chrome and Firefox. Both browsers present an easy to use tool

to bookmark websites, with different categories and options. In addition, both services present

an account system where the user can synchronize their bookmarks anywhere they want.

Some services provide a full online bookmark service, with no need of an application

installation.

The indexing of information can be exercised at a website like Flickr, which provides a

photography service, where users use indexation to share their pictures. Students can share

school trips, or pictures from a school project about any subject.

Regarding the translation to different media (C7) and the synthesizing of information from

several sources (C8), educators can develop activities using Youtube, utilizing videos to

convey the information to other students.

Lastly, many of the researches presented on this study discussed about mainly one media,

the Internet, while only one had the TV as its focus. Media encloses several formats, and the

ability to interchangeably use these formats make up the MIL that is aimed by this study.

## 5. Conclusion and Suggestions

At the end of this study, we could observe the actual situation of the MIL in Brazil over the last few years, especially regarding the evaluation skills. MIL is an attempt to bridge the gap between individuals that do not have access to information and those who do have access and enjoy this world of digital information. In addition, MIL is also bound to help individuals to analyze and evaluate the information they found on different media formats, and also, help on the development of these individuals in creating media content of their own.

The MIL Assessment Framework, used to analyze the efforts being made in Brazil about the young Brazilians evaluation skills, covers information that is available in different media formats, however, when we looked at the studies available to us regarding young Brazilians, we found a majority of those studies to deal with the Internet. The spread of the Internet, with help of the mobile Internet, has made the worldwide web reach a much wider radius of the world, and this situation is reflecting on the Brazilian reality. According to the 2014 ICT Kids Online Brazil, 82% of the respondents between ages of 11 to 17 had accessed the internet through a cellphone. This showed an increase of 29% in relation to the previous year, while the access through desktop computers went from 71% in 2013 to 56% in 2014 (CGI.br, 2014; p. 144).

This shows us that the number of connected young Brazilians in rapidly increasing, which calls for an even more urgent movement towards the education of the individuals inside this

cyber world. However, the results found on this study let us with some areas that still need much more efforts in order to develop citizens that able to critically evaluate the information they find while using these information technologies.

Looking at the results that were discussed here, we had positive efforts highlighted in the studies conducted by the several researches we observed. We could notice that some schools in Brazil are working to help students achieve a more critical posture about the information they find on the internet (A1). We also saw that many young Brazilians understand the importance and purpose of information and media in society (A4), and they are also capable of distinguishing censorship and editorials (A6). Their ability to describe the target audience of information was also relatively positive (A7), as well as their ability to identify advertisement during their researches (A8). These are all criteria contained in the first subject matter of the three that were analyzed, assessment of information, which is ranked as an intermediate level set of skills.

However, we also saw some performance criteria that were not very positive yet. The ability to define, create and use assessment and evaluation criteria (A1, A2, B1), still need work, even with the actual efforts that are being made in regard to these criteria. The ability to interpret information was presented as very low by the OECD results from digital reading during the PISA tests of 2012, while we also saw the lack of argumentation based on the information gathered (B9).

The part that most caught the attention during this study was the last subject matter inside the evaluation skills component of the MIL Assessment Framework: organization of information. The lack of data and research on the criteria contained in this matter was very concerning, since all these subject matter are tied together in order to develop a fully critical individual. Lacking the ability to organize the information gathered does not help individuals in developing other abilities to be media literate citizens.

With all this in mind, this study will try to present a priority list of which criteria need the most attention in order to increase the quality of MIL development in Brazil. While we aim to create this priority list, this author understand that the conjunction of all these skills together is what it makes it a strong structure to MIL development. So, the priority depicted here does not implies that some criteria are more important than others, it will serve only to prioritize some over others based solely on the data analyzed.

Within the low priority list, we have the following: A2. Create/Use Assessment Criteria; A4 Understand Information Importance/Purpose; A6 Distinguish Censorship/Editorials; A7 Describe Target Audience of Information; A8 Identify Advertisement; and lastly B7 Understand the Life Cycle of Information. These are the criteria that, while in need of more efforts, can be put aside while working on the more urgent ones.

The ones that can be marked in the medium priority list are the following: A1 Define Assessment Criteria; A3 Select and Summarize Information; A9 Identify/Verify Additional

Sources; B3 Identify and Unionize Related Information; B4 Examine Sources; B5 Evaluate

Information; B6 Compare Information; and lastly B9 Provide Arguments. These are the ones

this study sees as medium priority, which mean that while there are some efforts being made

in relation to these criteria, they still need more attention from policy-makers, educators and

researchers.

And lastly, in the high priority list we found the ones that need the most attention, due to

the lack of research on the area or the low achievement in the result of studies throughout the

country: A5 Interpret Information; B1 Define Evaluation Criteria; B2 Aware of the

Subjectivity in Evaluation; B8 Make Judgements Based in Gathered Information; and all the

criteria contained in the 3.3 section Organization of Information.

Looking at the high priority list, we see that the most urgent need is to address the

organization of information. Some approaches to this matter would be working together with

students in order to demonstrate the importance of organizing information, so one can easily

have access to the information gathered, making it easier to generate one's own ideas and

arguments. Another aspect would be work with students on how to transport information from

digital media, to written media and vice-versa. Small to big activities that help organizing

ideas and information are a very urgent need in Brazilian MIL education.

On the hand though, we cannot assume that young Brazilians completely lack organization

skills. The matter in place here might be the fact that we lack actual research that addresses

these organizational information skills.

Another aspect of the development of MIL in Brazil is brought to us by Rosa (2013) when she mentions that in Brazil, the discussion about ICT in education is much more influenced by the universalization theme than the discussion about the actual quality and inequality that exist within the use of the new technologies (p. 5). Thus, the worry about the universal access is shadowing the discussion and development of the necessary skills for a media information literate citizen.

In addition, the study conducted by Parada (2011) is also worth mentioning, when she researched all the academic work publish between 1990 and 2010 that dealt with ICT use in schools. The results showed that 76% of the works investigated the pedagogical efficacy of ICT as a learning and teaching methodology, or the ICT as a tool for helping learning. This shows a great tendency to understand ICT as tools, once again moving away from the light of the UNESCO MIL, which sees ICT and other media as a subject itself.

Another aspect important to notice is the MIL of Brazilian educators. According to Freitas (2010), the initial training of Brazilian teachers do not seem to be enough to deal with the demands of the digital age.

The social gap in Brazil is still a reality, and areas of human development like the ones covered by the UNESCO MIL standards help in lessening this gap. Although we understand that access to information is essential and is not universal in Brazil, we must strengthen our

efforts toward the studies that understand MIL as means to develop critically capable citizens.

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# 7. Appendixes

## Appendix 1 – MIL Competency Matrix – Tier Two – Evaluation Skills

| MIL matter | Competency | Performance criteria |
|---|---|---|
| Understanding of information and media | M.I.-literate person understands necessity of media and information providers in society | 1. Understands principles and conditions necessary for media and information providers to fulfil their functions |
| | | 2. Understands role and functions of media and information providers in society to inform, teach, influence and entertain |
| | | 3. Recognizes that media and information providers have implications for society |
| | | 4. Knows that the work of media and information providers and their impact can and should be monitored |
| | | 5. Knows concepts of ethics and rights related to media and information and international and professional standards |
| | | 6. Recognizes the impact of information and media content on oneself |
| | | 7. Identifies how information and media content can be represented differently and in different formats |
| | | 8. Identifies and differentiates who owns and creates information and media content |
| | | 9. Understands authorship and rights of authors |
| | | 10. Appreciates the importance of acknowledging others' work in terms of authorship and rights |
| | | 11. Knows about editorial independence and censorship of information and media content, as well as media and information institutions |
| | | 12. Recognizes that audiences/users interpret information and media content in different ways |
| | | 13. Knows that there are various viewpoints in any information and media content |
| | | 14. Appreciates information and media content applying aesthetic criteria and formats |
| | | 15. Understands the codes and genres of different media and information platforms |
| | | 16. Understands the importance of advertisement in media and information providers |

| MIL matter | Competency | Performance criteria |
|---|---|---|
| Assessment of information and media content, and media and information providers | M.I.-literate person is able to assess, analyse, compare, articulate and apply initial criteria for assessment of the information retrieved and its sources, as well as evaluate media and information providers in society | 17. Defines assessment criteria for information and media content retrieved and information sources: purpose, audience, authorship, credibility, significance, supplier, relevance, currency, reliability, completeness, accuracy, timelines, scope, and coverage. |
| | | 18. Creates or uses basic assessment instrument(s) / tool(s) for evaluation of information and media content, as well as media and other information providers |
| | | 19. Selects and summarizes main elements such as ideas, keywords, concepts, messages and themes from retrieved information and media content |
| | | 20. Understands the purpose and importance / significance of information and media content and its context on sustainable development |
| | | 21. Interprets, makes connections on the retrieved information and media content, and restates in own words |
| | | 22. Distinguishes editorial independence and recognizes censorship of information and media content and media content, and media and other information providers |
| | | 23. Describes the intended audiences of the retrieved information and media content |
| | | 24. Identifies, analyses and differentiates diverse advertising messages, processes, techniques, standards, and codes of practice |
| | | 25. Identifies and verifies additional information sources, methods and search strategies using diverse tools |

| MIL matter | Competency | Performance criteria |
|---|---|---|
| Evaluation of information and media content, and media and information providers | M.I.-literate person is able to evaluate and authenticate information and media content gathered and its sources and media and information providers in society | 26. Defines evaluation criteria and appropriate tools |
| | | 27. Aware about limitations and subjectivity of evaluation |
| | | 28. Identifies and unionizes related needs / topics / issues and asks additional questions |
| | | 29. Examines information and media content gathered, and its sources as well as media and information providers |
| | | 30. Evaluates information and media content gathered, its sources as well as media and information providers |
| | | 31. Compares information from different media and information sources |
| | | 32. Understands the importance of life cycle of information and media content for evaluation |
| | | 33. Draws conclusions from information and media content gathered using various technique and makes a judgement |
| | | 34. Provides arguments for the drawn conclusions |
| Organization of information and media content | M.I.-literate person is able to synthesize and organize information and media content gathered | 35. Takes and records own notes and summarizes |
| | | 36. Revises, refines, frames and narrows his/her initial need / problem / issue / question |
| | | 37. Groups and organizes information and media content |
| | | 38. Understands the importance of indexing selected information and media content through indexation |
| | | 39. Uses tools and format for organization of information and media content |
| | | 40. Stores relevant information and media content based on evaluation for future use |
| | | 41. Translates information and media content and from one format to another |
| | | 42. Synthesizes information and media content from several formats such as print, audio, video |