

Use of Referencing Software Among University Students : Experience is Key



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Introduction

- Students are comfortable using technologies, which facilitates their writing process
- Increased availability of online sources = learning referencing **skills** (Peters, Vincent, Gervais, Morin et Pouliot, accepted).
- Continued and persistent ambivalence of undergraduate students regarding the use of referencing software (Salem & Fehrmann, 2013)
 - Correctly referencing is difficult when faced with the diversity of online sources (Couture, 2010)

Document Referencing : A Definition

"Explicit process of attribution to one or more authors of productions or fragments of productions, even ideas that inspired your own production"

(Cadieux, Morinière et Simonnot, 2018, trans.)

References as...

- 1) In the text
- 2) At the end of the text

Also a powerful way to incorporate **critical thinking**:

"An approach that views referencing as fundamental to demonstrating critical engagement and deep understanding goes far beyond paraphrasing, quoting and summarising. Critical thinking and writing involve evaluating, analysing, interpreting and arguing – the types of higher order thinking skills that universities expect of their students."

(Vardi, 2012, p. 924).

Framework : Use of Referencing Software

1|3

“ Personal bibliographic softwares, Citation managers, Bibliographic Citation Management Software “

Software functions

- Find
- Collect
- Save and organise references in a virtual library
- Cite directly in a text
- Automatically produce a list of references.

(Cuschieri, Grech et Calleja, 2018; Francese, 2013;
Ram et Anbu K, 2014)

Barriers to using referencing softwares

- Time required to learn the software
- Staying up-to-date
- Time needed to create the database
- Non user-friendly interfaces
- Lack of self-confidence and experience
- Few references needed for a project

(Speare, 2018)

Framework : Self-Efficacy

2|3

**Individual's confidence in his or her ability to
complete a task**

(Bandura, 1977; in Tsai, 2018)

Also defined as...

"A personal belief in one's capability to organize and execute courses of action required to attain designated types of performances" (Artino, 2012)

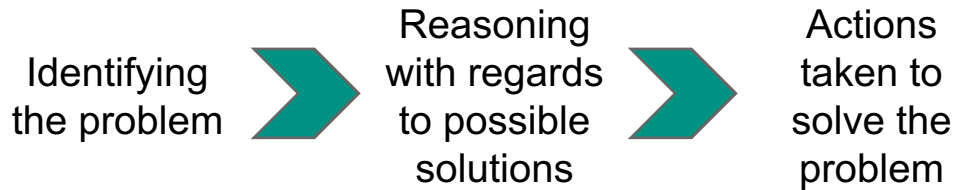
- Which possibly affects an individual's choice of activities, effort, and persistence across a wide range of human functioning.

Framework : Problem Solving Competency

3|3

"Problem solving is a cognitive process of the brain that searches a solution for a given problem or finds a path to reach a given goal."

(Wang & Chiew, 2008, p. 81)



(Staats, 1996)

With referencing problems, students seek help from:

- Online sources such as Google and Youtube
- Peers, friends, teachers\professors or librarians

(Park, Mardis & Ury, 2011)

Objective

Describe the development of students' document referencing competencies during their time at university.

Voluntary sample

- 1599 university students answered an online questionnaire
- Those having completed sections regarding document referencing:
 - 810 students from 6 universities in Quebec
 - 640 women and 170 men
 - From different programs, such as education (33%), sciences and engineering (28%), and social and management sciences (39%)

Instruments

- ❖ Validated francophone questionnaire
(Peters, Vincent, Fontaine, Fiset-Vincent, 2018)
- ❖ 66 questions over 7 sections:
 1. Prior knowledge (n=4)
 2. University knowledge (n=2)
 3. Informational skills (n=14)
 4. Writing skills (n=15)
 - 5. Document referencing skills (n=9)**
 6. Knowledge of plagiarism (n=11)
 - 7. Demographics (n=11)**
- ❖ Took 15 minutes to complete

Data collection

- ❖ Fall 2017
- ❖ Invitation to participate by email
- ❖ Click on link → consent form
- ❖ Anonymous participation
- ❖ No financial compensation
- ❖ Data were saved and stored on UQO's secure servers

Analysis

Exploratory factor analysis:

- 3 main factors explained 61% of total variance
- Measures of sampling adequacy
 - Kaiser-Meyer-Olkin (KMO) = 0.63
 - Bartlett's test of sphericity was significant ($X^2 = 2522.22$; $ddl = 36$; $p < 0.001$)

Factor Loadings for Exploratory Factor Analysis of Document Referencing Skills

| | 1 | 2 | 3 |
|--|-----|-----|---------|
| 1 – Use of referencing management softwares | | | |
| - I use referencing management softwares (EndNote, Zotero, Mendeley, etc.) to automatically generate a reference list in a word processor. | .94 | | |
| - I use referencing management softwares (EndNote, Zotero, Mendeley, etc.) to organise my references. | .98 | | |
| 2 – Self-efficacy competency | | | |
| - I know how to reference different types of digital sources (web pages, blogs, videos, slide presentation, etc.). | | .77 | |
| - I am confident when creating a bibliography for my academic work. | | .71 | |
| - I know what is admissible or not in a reference list for my academic work (documents found, documents cited in the text, documents read but not mentioned) | | .67 | |
| - I use the reference writing guide made for my study program or specific to my discipline. | | .29 | |
| (If all the references are there, I tolerate errors in the format of my reference list) | | | (-.17)* |
| 3 – Problem solving competency | | | |
| - When I have a problem with my references, I ask the librarians for help. | | | .55 |
| - I consult information online (web sites, video, capsule, etc.) to learn how to create a reference list for my academic work. | | | .49 |

*Question removed

Analysis

Multivariate analysis of variance:

Significant differences between the number of years completed at university according to each factor.

- **Use of referencing management software** ↑ 4+ years ([0, 1, 2, 3] < [4, 5, 6 and more], $p < 0.001$)
- **Self-efficacy** ↑ 4+ years ([0] < [4, 5, 6 and more], $p < 0.001$)
- **Problem solving competencies** ↑ 0 year ([0] > [2], $p < 0.05$)

| Years completed | <i>n</i> | Use of software | | Self-efficacy | | Problem solving | |
|-----------------|----------|-----------------|-----------|---------------|-----------|-----------------|-----------|
| | | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> |
| 0 | 66 | 1.60 | 1.32 | 4.50 | 1.27 | 3.02 | 1.44 |
| 1 | 277 | 2.17 | 1.95 | 4.73 | 1.31 | 2.58 | 1.46 |
| 2 | 155 | 1.90 | 1.74 | 4.83 | 1.29 | 2.31 | 1.22 |
| 3 | 128 | 2.36 | 1.96 | 4.99 | 1.34 | 2.62 | 1.38 |
| 4 and 5 | 100 | 2.63 | 2.37 | 5.03 | 1.15 | 2.59 | 1.43 |
| 6 and more | 84 | 3.77 | 2.57 | 5.25 | 1.21 | 2.60 | 1.45 |
| Total | 810 | 2.32 | 2.04 | 4.86 | 1.05 | 2.57 | 1.40 |
| <i>r</i> | 810 | | .23*** | | .18*** | | -.03 |

Note: values vary between 1 (very poor) and 7 (very high)
*** $p < .001$.

Factor 1 : Use of Referencing Management Software

1|3

- Students from 0-3 years of university completed = ↓ use of referencing management software when compared to students who have completed several years in university
 - Benefits are not outweighed by the efforts needed to learn these softwares (Salem & Fehrmann, 2013)
 - No will to invest the time and energy needed to use this software (Speare, 2018)

How can we explain these results?

- Scientific culture of undergraduate programs vs. Graduate programs ?
- Graduate work requires managing more references : motivation to be efficient by learning a new tool?

Factor 2: Self-Efficacy Competency

2|3

- Students entering university feel less effective in their referencing skills compared to more advanced students.
- Students' own perception of their referencing skills is quite high as soon as they enter university (average of 4.50/7) and progress positively throughout their university experience.

How can we explain these results?

- Good preparation before university
- Research experiences
- Use of referencing management software

Factor 3 : Problem Solving Competency

3|3

No significant difference in problem solving skills :

Regardless of whether students are beginners or advanced in their university programs, they will use several strategies when they encounter a problem in referencing.

New students use online resources and librarians more often than their peers with two years or more of university experience.

Limits of this study

- Rejection of participants who did not complete the referencing skills section in the questionnaire.
- Online questionnaire: not possible to give additional information if needed
- Students were grouped by completed years, not taking into account their cycle or earlier completed programs.

- Referencing skills are essential for university studies, particularly for the promotion of intellectual integrity, critical thinking and avoiding plagiarism.
- Referencing software is an effective tool for academic work, but students are using it only after a few years in university.

Introducing referencing software sooner would allow students to add another tool to their toolbox, helping them referencing correctly during their time in university.

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Conclusion

References

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