

Information Literacy: Past success and future needs for undergraduate health practitioners

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Information Literacy: Past success and future needs

Professional Practice of Health Practitioners

Jarvis, 1987; Gopee, 2001

Lifelong
learning

Evidence-
Based
Practice

Information literacy

Candy, 1991; Kaplan & Whelan, 2002; Brettle & Grant, 2004

Information Literacy: Past success and future needs

RMIT University aims for its graduates to be able to

‘...effectively access, manage and utilize information in their professional and personal capacities, as well as actively engage in lifelong learning’. (RMIT, 2005)

Information Literacy: Past success and future needs

UG and graduate Health Practitioners
MRS practitioners: MITs, NMTs, RTs,
Sonographers

Project 1

1st year UG
students in
SMS


6 programs
incl UG MRS

Project 2

2nd year UG
students in
Discipline of
MRS

Project 3

Graduate
MRS
practitioners



Project 1: Information Literacy Skills Gap Analysis

1st Year SMS students 2007
Wendy Forrest and Dr Jeremy Keens

IL Skills Gap Analysis 2007

- Aim: To identify gaps in IL development and to demonstrate any change in IL development across the semester to use to inform course development.
- Learning activities integrated in Foundation module of *Introduction to ... [Discipline]* courses across SMS to promote IL skill development.
- First 5 weeks for all First year SMS students to develop *tertiary learning skills* (or academic literacy)

Foundation Module: Common elements weeks 1-5

Lecture / tutorials

- Introduction to IT @ RMIT
- Library tour & Catalogue searching
- Database searching -1 or 2*
- Learning Styles & team work
- Academic & Reflective Writing
- Reading Research Papers
- Academic Integrity & Referencing
- Peer work and evaluation
- Oral Presentations

Learning Lab Activities

- Referencing
- Plagiarism
- Reading Skills
- Writing Skills
- Oral Presentations
- Journal writing

Assessment tasks

- Foundation Folio (15 %)
- Annotated Bibliography (10%)

Remaining 8 weeks discipline specific

IL Skills Gap Analysis Tool

- Tool adapted with permission from 'Quebec' questionnaire (Mittermeyer, 2005)
 - Canadian study explored IL skills at entry to university of first year UG students (n=3003)
- Local adaptation for Australian context (Bernath & Jenkin, 2006)
- this application included minor changes for currency of questions
- Ethics approval from RMIT University

IL Skills Gap Analysis Tool

- Demographic data collected (Age, ESL, Academic History)
- 20 Qs developed in 5 themes (Concept Identification, Search Strategy, Document Types, Search Tools, Use of Results)
- Used Weeks 1 and 13 (Round 1 & 2)
- Round 1: n = 278; Round 2: n = 151
- Matched pair data n = 102 (31%)
(5 / 6 programs)

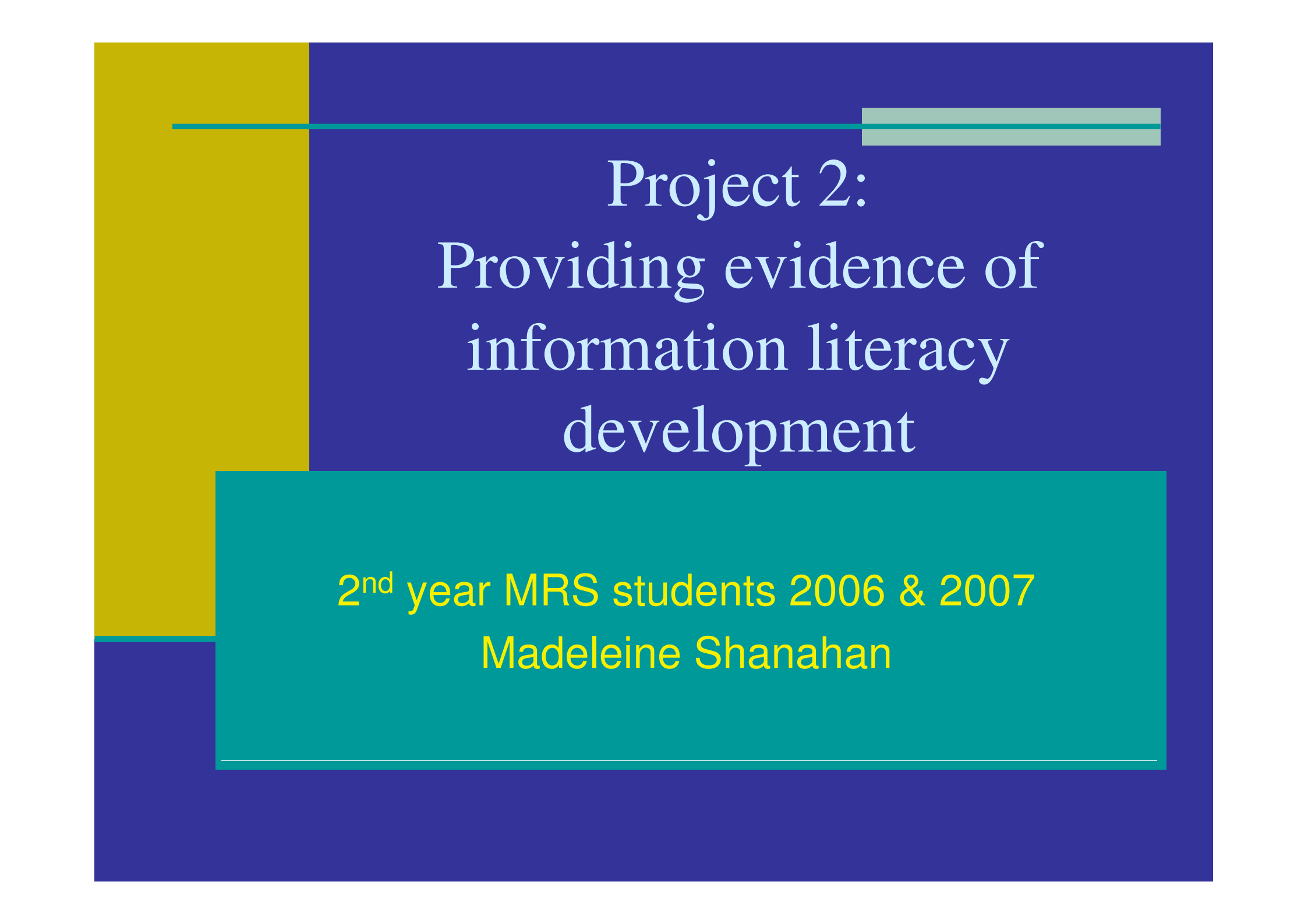
IL Skills Gap Analysis Results: Changes in Mean Scores

	Mean	Standard Deviation	p value
Whole Cohort			
Round 1 n = 278 % = 84	9.142	2.863	N/A
Round 2 n = 151 % = 45	11.051	3.204	<.001 *
Matched Pairs			
Round 1 n = 102	10.219	2.537	N/A
Round 2 n = 102	11.719	3.312	<.001 *

* Statistically significant difference 10

IL Skills Gap Analysis Results: Matched Pair Data: Improved

Theme	Q number	Round 1 % of correct answers	Round 2 % of correct answers
Concept Identification	12	55.9	55.9
	16	82.8	76.5
	21	59.8	52.0
Search Strategy	10	77.5	81.4
	17	27.5	52.0
	19	95.1	94.1
	20	26.5	28.4
	24	37.3	40.2
Document Types	11	64.2	70.0
	23	93	91.2
	28	26	65.7
Search Tools	9	38.2	71.7
	14	85.3	93.1
	15	4.9	8.8
	22	24.5	57.8
	25	70.1	79.9
Use of Results	13	16.7	35.3
	18	34.3	47.1
	26	51.5	68.4
	27	53.2	71.6



Project 2:
Providing evidence of
information literacy
development

2nd year MRS students 2006 & 2007
Madeleine Shanahan

Supporting IL development

Scaffolded group project

(Shanahan, 2007)

Pre-intervention

E
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Post-intervention

		IL Framework
Survey 1	IL behaviour at beginning of 2 nd year	<i>Information need</i>
	Group project topic	
Online task 1	Getting used to online learning platform	
Online Task 2	Search terms and construction search statements	<i>Locate needed information</i>
Library activity	Searching databases	
Online task 3	Evaluating internet sources	<i>Evaluate retrieved information</i>
Online task 4	Annotated bibliography for key information sources for project	
Online task 5	Preparing for oral presentation	<i>Use the Information</i>
Survey 2	IL behaviour at end of 2 nd year	

Process of Learning
(Biggs, 1999; Ramsden, 2003)

Oral and written presentation of discipline content

Products of learning

Method

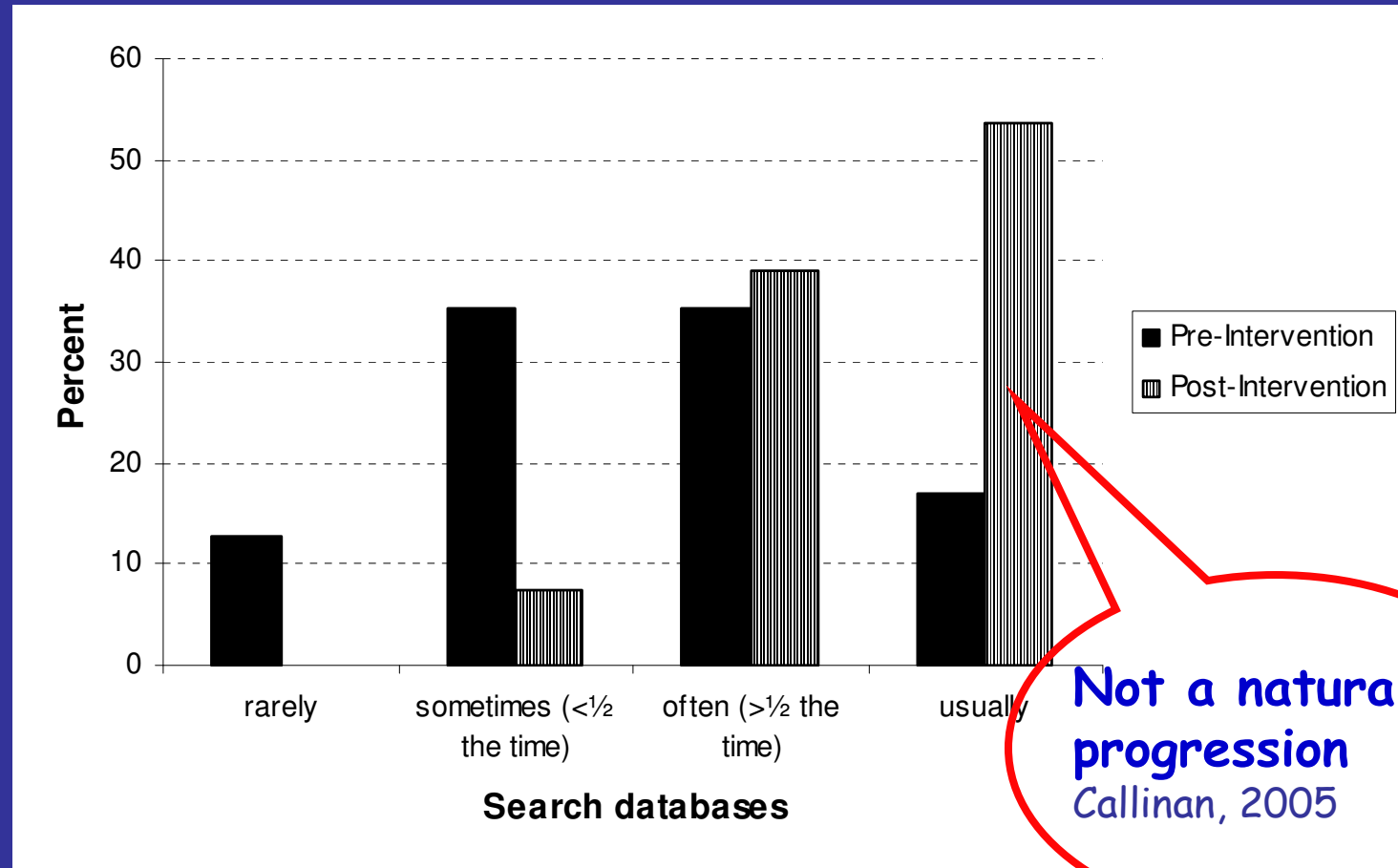
Survey

- **Closed questions**
 - When looking for information for university assignments and projects: How often do you search eg [www / databases]?
 - 4-point response (Catts, 2003)
 - usually, often ($>\frac{1}{2}$ time) sometimes ($<\frac{1}{2}$ time) or rarely
- **Open questions**
 - When looking for information for university assignments and projects: What [search engines / databases] do you use?
 - When looking for information for university assignments and projects on the internet, how do you evaluate the information you find? *what criteria if any do you use*
- **Data analysis SPSS15.0®**
 - Descriptive (%) & inferential (Fisher's Exact test) analysis
- **Ethics approval from RMIT University**

Results

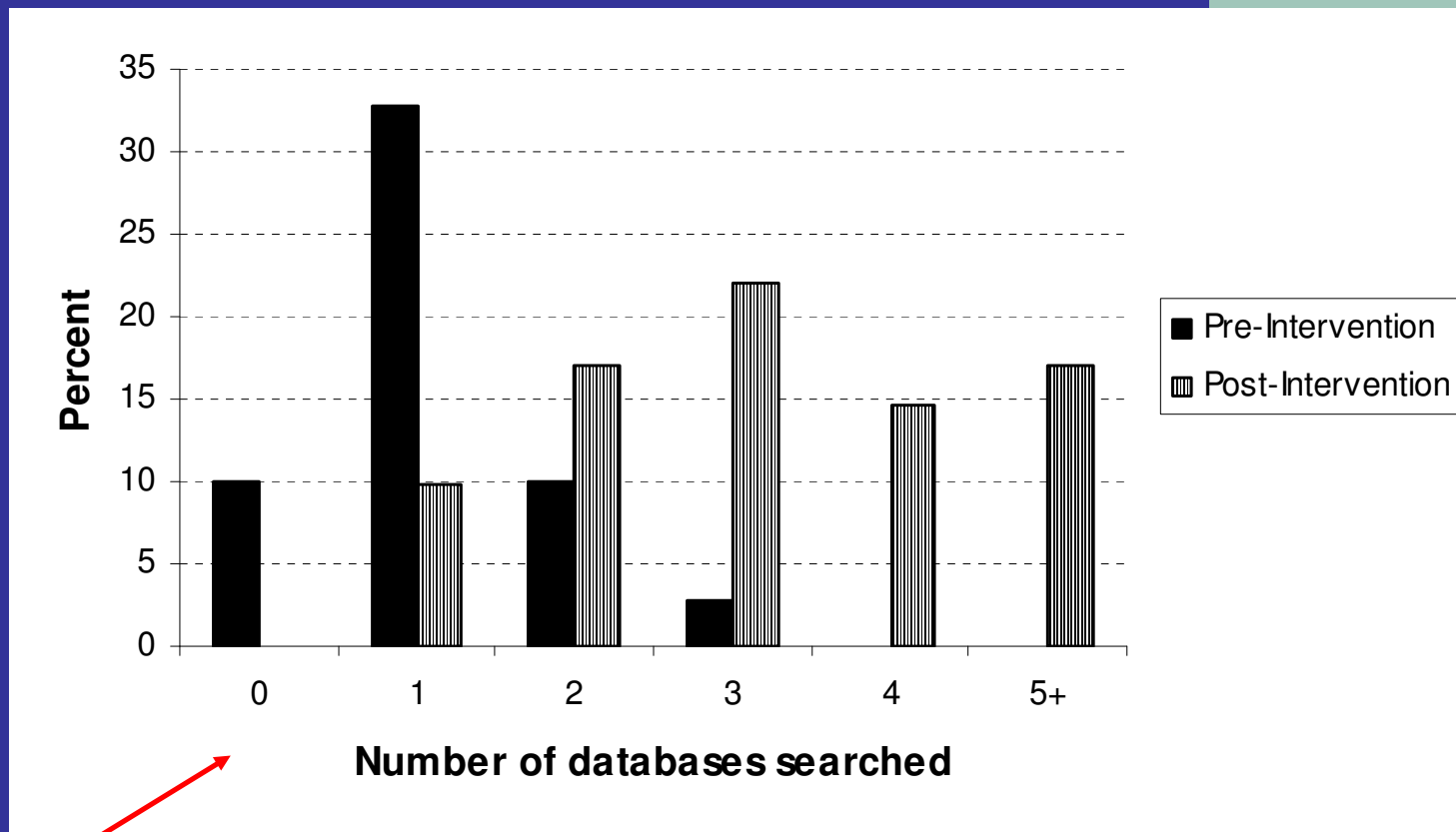
- Two years data (2006 and 2007)
- Pre-intervention $n=71$, % = 77%
- Post-intervention $n=41$, % = 44%

Information Search Behaviour: Databases



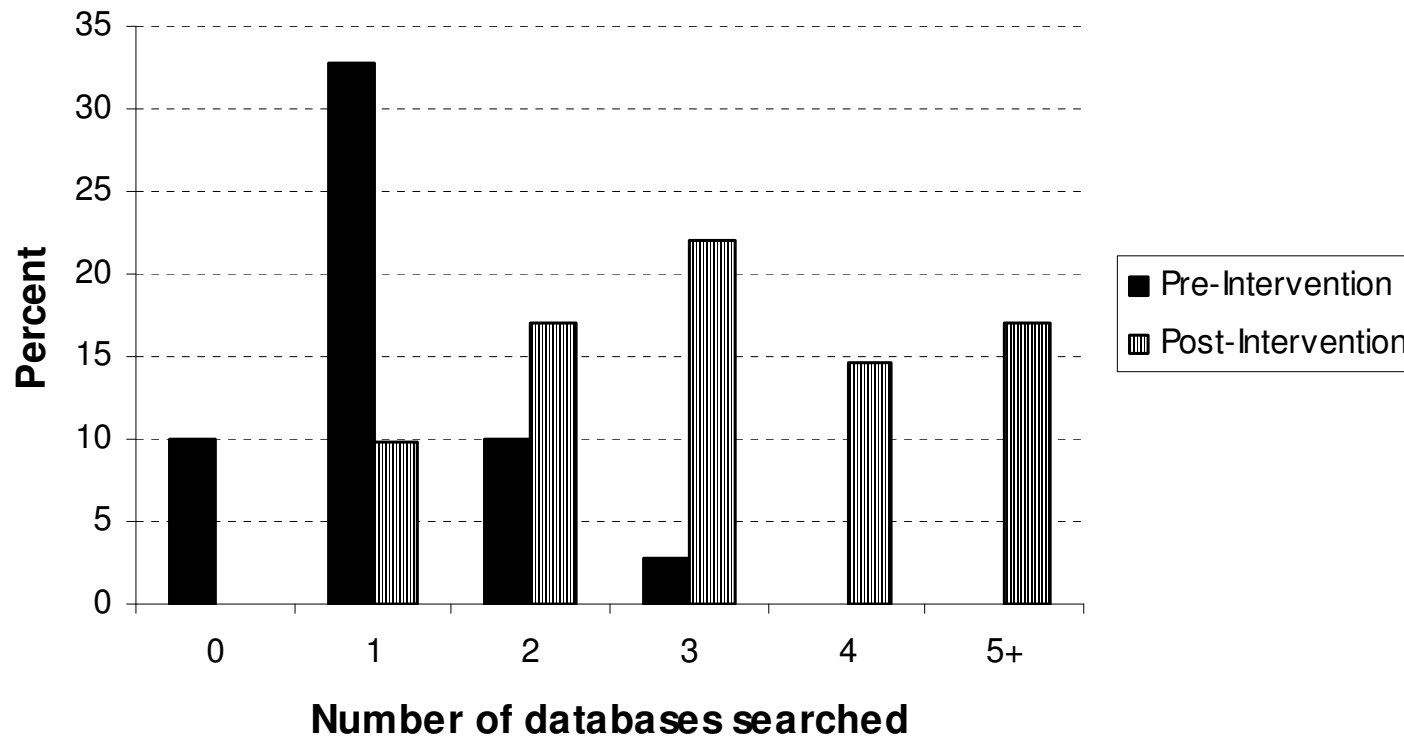
Fisher's Exact Test =25.738, $p=0.000$

Information Search Behaviour: Databases



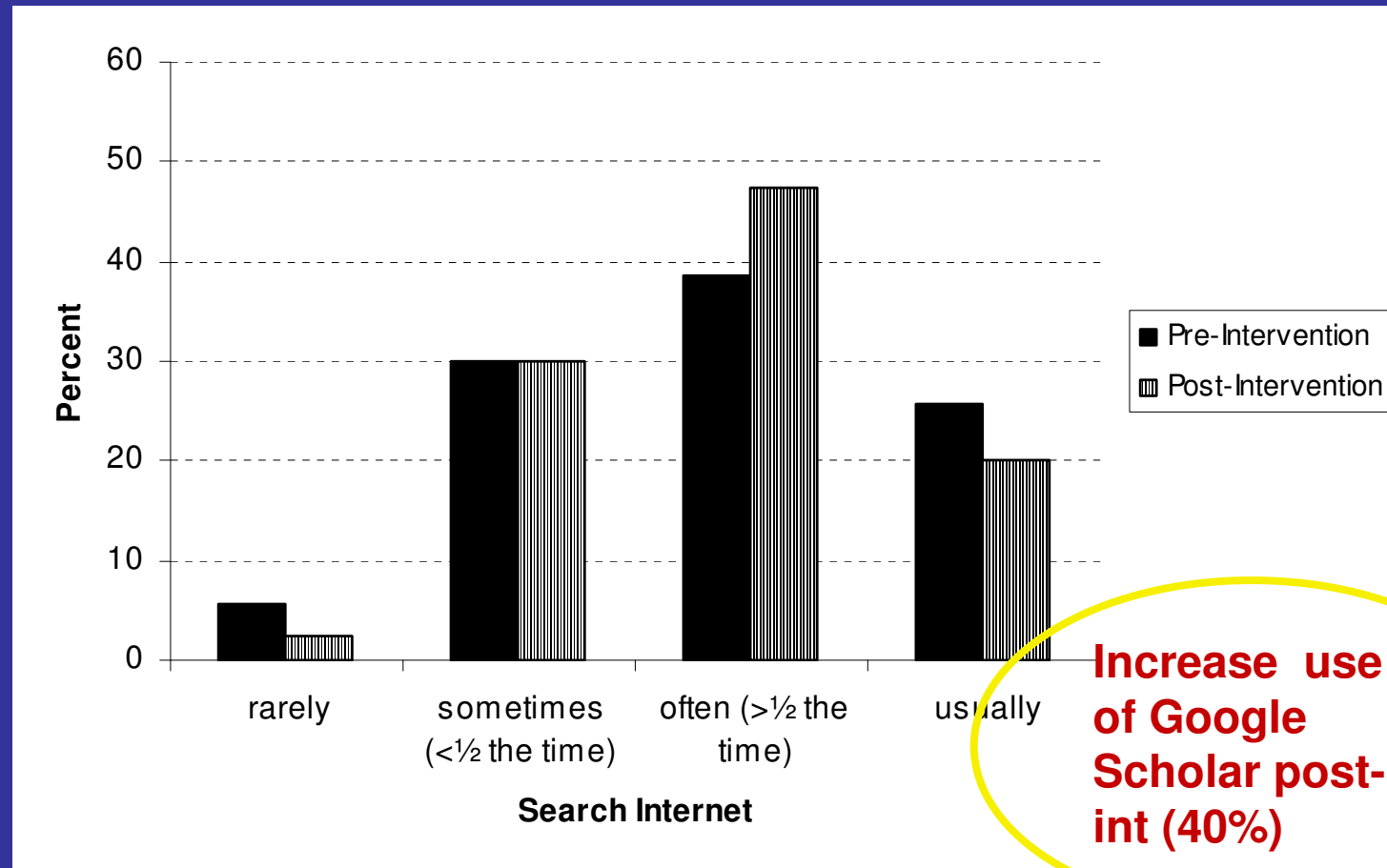
+ 34% Pre- "I am not sure that I have used any databases";
"I have not chosen any in particular"; "don't know"

Information Search Behaviour: Databases



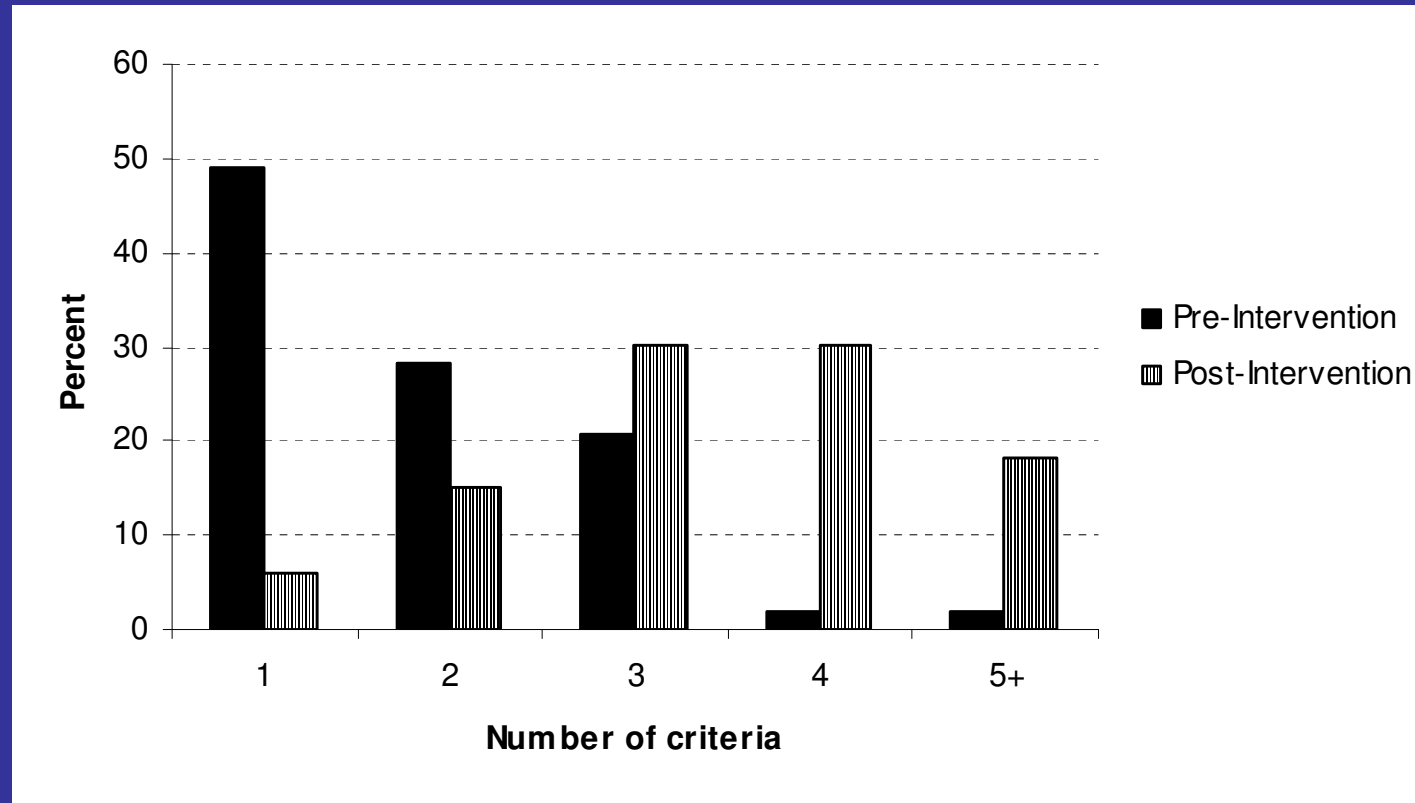
Literature searching should occur across several databases (Snowball, 2005; Brettle & Grant, 2003)

Information Search Behaviour: Internet




Fisher's Exact Test = 1.284, $p=0.763$

Information Evaluation Behaviour: Internet



Multiple criteria should be used to evaluate internet information (Brophy & Bawden, 2005; Liu & Huang, 2005)

Fisher's Exact Test = 33.608, $p=0.000$ RMIT University



Project 3:
Accessibility to information
resources in workplaces



Graduate MRS Practitioners 2007
Madeleine Shanahan

Method

- 2007 Questionnaire mailed to a random sample of 1142 MRS practitioners
- Questionnaire
 - Developed after reviewing the literature and interviews with 28 MRS practitioners
 - Trialled before use
- Data analysis SPSS15.0®
 - Descriptive (%) & inferential (chi-square and Fisher's Exact test) analysis
- Ethics approval from University of Wollongong

Results

- Response rate of 32.8%
- Sample comparable with population of MRS practitioners (AIHW, 2003) area of specialisation; gender
- Respondent characteristics:
 - Healthcare Sector: Public 53.1%, Private 46.9%
 - Work environment: Teaching Hospital 54.6%, Clinics 28%
 - Geographic Location: Metropolitan: 58.3%, R & R 15%

Accessibility to information resources

- Access to the Internet in the workplace
- Number of journals practitioners have access to
- Skill level of practitioners

Access to the Internet: 96.4%

	Fisher's Exact Test	P value	Access in the workplace
Metropolitan / non-metropolitan	11.005	.025	On all computers Metro 42.3%; Non-metro 36.8% No access Metro 0.6%; Non-metro 7.4%
Teaching / non-teaching	19.623	.000	On all computers Teaching 48.2%; Non-teaching 28.1% Access offices only Teaching 15.5%; Non-teaching 31.7%

Access to the Internet: 96.4%

Access restrictions included:

"All computers have internet access but need password with staff rads [radiographers] are not given"

"do not have access to the web only government [health] site"

"we don't tend to get on that often, it's kept for the office mainly"

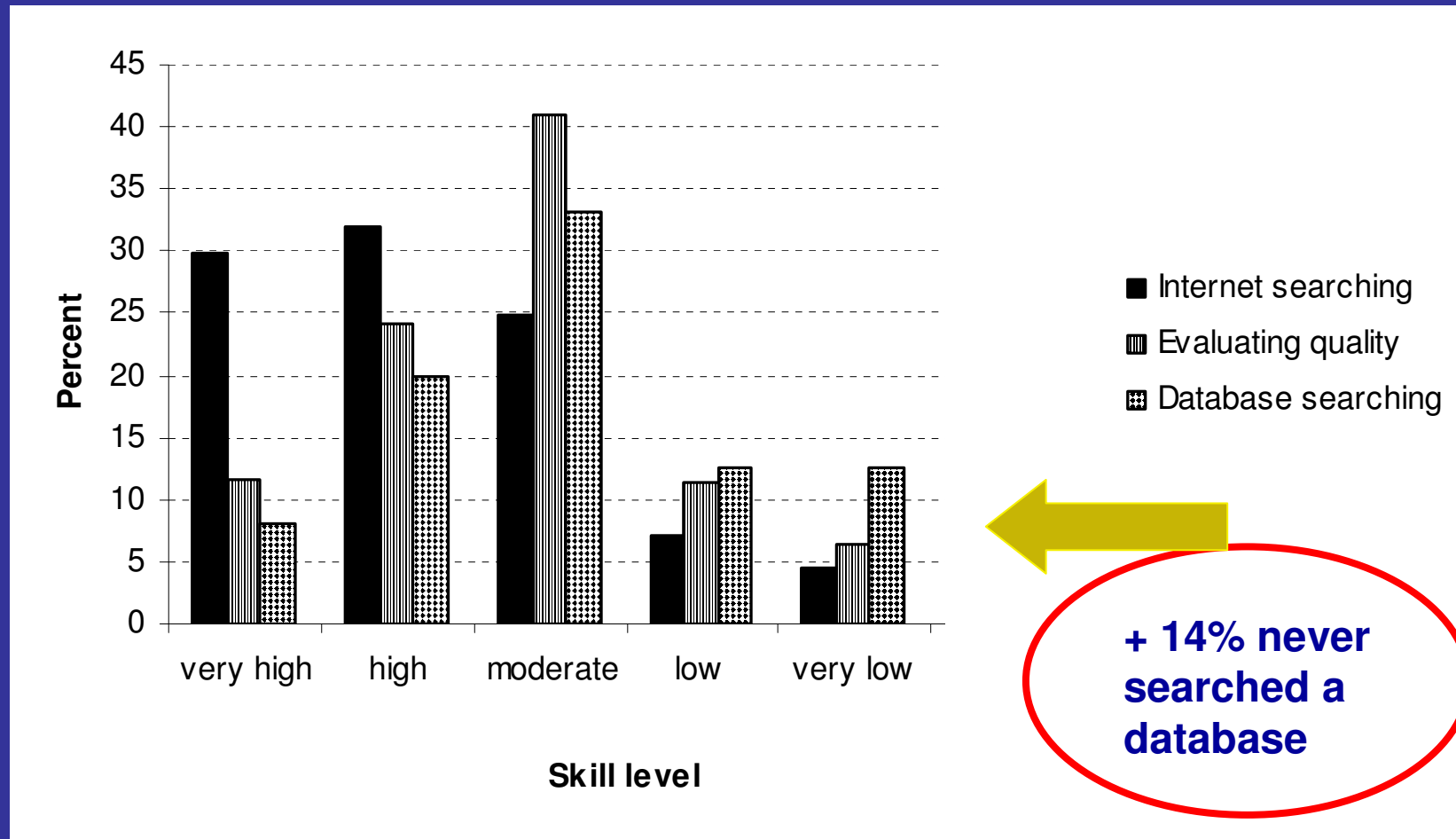
Access to professionally relevant journals

no access to any listed journals

- 10% of practitioners
- 17% rural and remote practitioners

19% of practitioners had access to only one of the listed journals

Skill level of practitioners



Information Literacy: Past success and future needs

Past successes:

Projects 1 and 2

UG students

- Positive IL development

Current needs:

UG students

- Continued IL development

Graduate practitioners

- Skill development

Current and future needs:

- UG students (future) & current practitioners

improved access to professionally relevant quality information resources in clinical workplaces **or Lifelong learning, EBP and research (AIR, 2004; SOR, 2007) will be compromised**

- Better understanding of the information environment of clinical workplaces

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