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Evaluation of the Knowledge, Critical Thinking and Team Work Collaboration of the EBN Training Program in Taiwan

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Objectives

1. Describe the important of teaching EBP in nursing course.
2. Realize the active learning and teaching is the major strategies to promote EBP.
3. Explore the effectiveness of EBP workshop in MS program

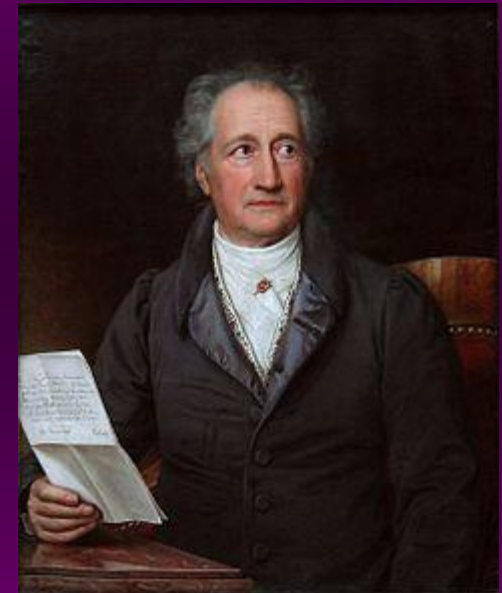


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Johann Wolfgang von Goethe

- Knowing is not enough; we must apply.
- Willing is not enough; we must do.





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The impotencies of EBN

- Health quality
- Health expenditure
- Professional growth and development
- Integrate knowledge, theory, research and practice

To be clinician scientist



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What is the best practice?

- Knowledge-based
- Research-based
- Evidence-based
- However, there are some gaps between these and practice.
- Do we care pts on the BEST practice?
- It is not only the quality, but the ethics.



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The Registered Nurse License as the Foundation for CNS Practice

- Nursing core competency
 - Caring
 - Ethics
 - Critical thinking
 - Communication and collaboration
 - Basic clinical skill
 - Basic bioscience
 - Accountability
 - Life-long learning



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The World Health Organization

(WHO) (2005)

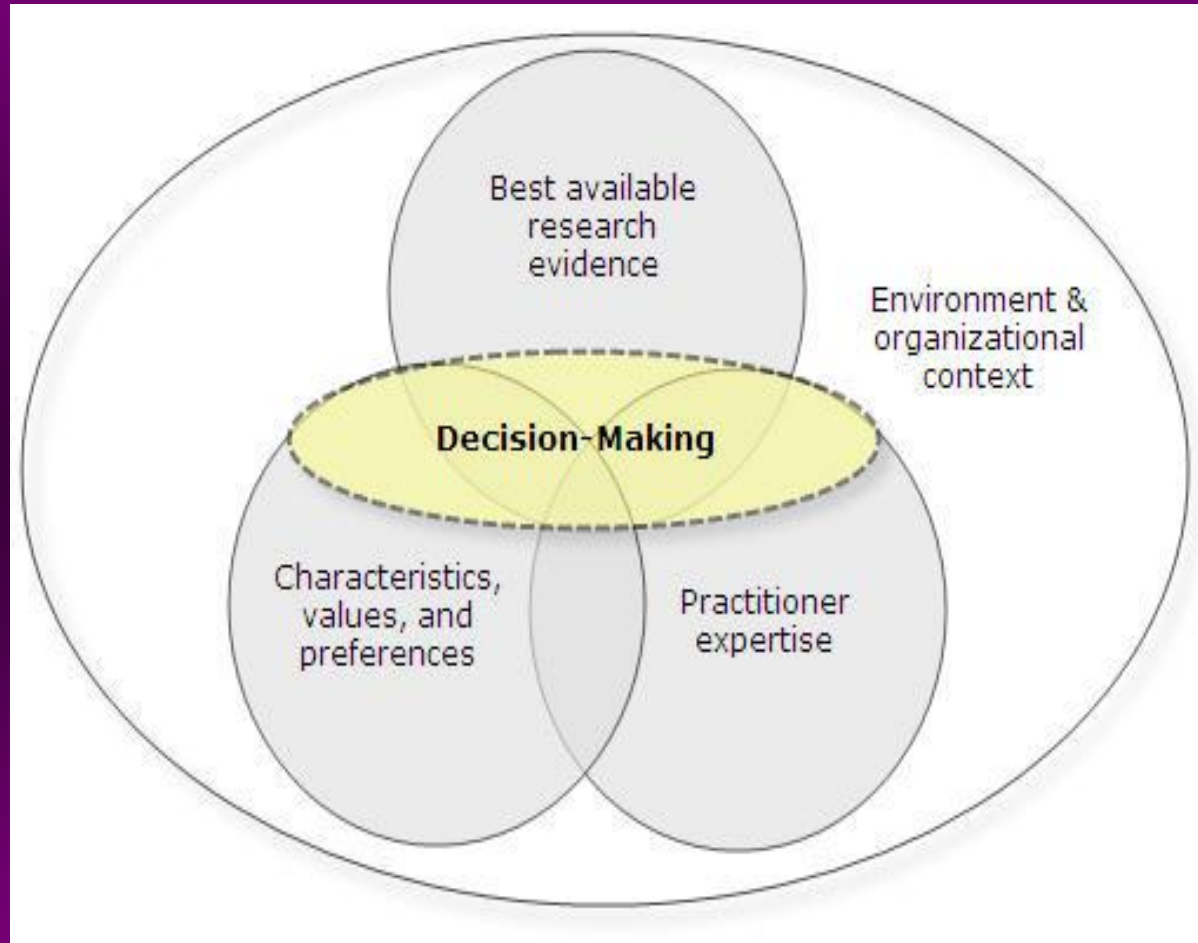
- Definition of knowledge translation (KT) as
“the synthesis, exchange, and application of
knowledge by relevant stakeholders to
accelerate the benefits of global and local
innovation in strengthening health systems
and improving people’ s health.”



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Transdisciplinary Model of Evidence-Based Practice



Satterfield, J., Spring, B., Brownson, R.C., Mullen, E., Newhouse, R., Walker, B. Whitlock, E. (2009). Toward a Transdisciplinary Model of Evidence-Based Practice, *Milbank Quarterly*, 87(2), 368-390. Model available at <http://www.ebbp.org>



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Evidence-based practice

1. **Ask** an answerable question
2. **Access** the evidence
3. **Appraise** the evidence
4. **Apply** the appropriate evidence
5. **Assess** the process



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History of EBP in Taiwan

彰基

萬芳

衛生署

中國

國衛院

中區分局

中榮

長庚

新光馬偕

高醫

實證臨床指引平台

實證護理臨床指引

實證護理臨床競賽

May

1996

Feb May Jul

2001

Jul Aug

2002

May Sep Nov

2004

Dec

2006

2006~2009



Study design

- Quasi-experimental study:
 - One group pre and post-test
- Three days EBP workshop by team-based learning
- Sample size: Twenty nine graduate students in Master program



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After this course, the student will

1. Realize the concept of evidence-based practice
2. Understand the five steps in implementation of EBP
3. Re-demonstration the skills of searching data bank
4. Discuss with group members to formulate a PICO, searching three related articles, complete appraisal, and practice the application process.
5. Critique a clinical practice guideline (CPG) in specific nursing area.
6. Perform the teaching ability to explain one of the selected topic related to five A process.



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Course design

Day	Date	Time	Subject	Lecturer
Day 1	08/09	0900-0930	Introduction of Course	Dr. Chiang, Kao, Chen
		0930-1050	Introduction of EBN	Dr. Chiang
		1100-1150	L1 Formulate PICO	Dr. Kao
		1330-1420	S1 PICO practice	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1430-1520	L2 Searching evidence	Dr. Chen
		1530-1630	S2 Searching data practice	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen



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Course design-Con' s

Day	Date	Time	Subject	Lecturer
Day 2	08/10	0900-0950	L3 Appraisal — RCT	Dr. Chiang
		1000-1050	S3 Appraisal practice — RCT	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1100-1150	L3 Appraisal — Systematic review	Dr. Kao
		1330-1420	S3 Appraisal practice — Systematic review	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1430-1520	L4 Application	Dr. Chen
		1530-1630	S4 Application practice	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen



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Course design-Con' s

Day	Date	Time	Subject	Lecturer
Day 3	08/12	0900-0950	L5 Audit and assessment	Dr. Chiang
		1000-1150	Presentation (Group A)	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1300-1450	Presentation (Group B)	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1500-1650	Presentation (Group C)	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen
		1700-1720	Course evaluation	Group A : Dr. Chiang Group B : Dr. Kao Group C : Dr. Chen



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Learning Sheet

- Prepare a scenario to process the five A steps
- Each topic combine with one practice
- Lecture less, practice more
- Student learning sheet and teacher guidebook
- Each student need active participate the group discussion
- The student need to present one topic that they select randomly



Critical Thinking

- Critical Thinking Disposition Inventory (CTDICV)
 - Systematic analysis (Cronbach' s alpha: 0.83)
 - Thinking within the box (Cronbach' s alpha: 0.82)
 - Thinking outside of the box (Cronbach' s alpha: 0.81)
- Six point Likert' s scale format
- Cronbach' s alpha: 0.85

Hwang, S. Y., Yen, M., Lee, B. O., Huang, M. C., Tseng, H. F. (2010). A critical thinking disposition scale for nurses short form. *Journal of Clinical Nursing*, 19, 3171-3176.



Measurements

- Taipei Evidence-Based Practice Questionnaire (TEBPQ)
 - self-report questions on basic characteristics of evidence-based practice:
 - Ask (PICO) (5 items)
 - Acquire (7 items)
 - Appraisal (4 items)
 - Apply (6 items)
 - Attitude (4 items)



Team work cooperation

- Student performance in PBL (Problem-based learning) tutorial sessions questionnaire practice
 - Independent study (8 items):
 - Group interaction and Active participation(10 items)
 - Reasoning skills (6 items)



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Critical Thinking

Subscales	Pretest M (SD)	Post-test M (SD)	t-Value	P-Value
Critical Thinking- Systematic analysis	18.29 (4.537)	20.46 (3.480)	-2.420	.016
Critical Thinking- Thinking within the box	33.18 (7.870)	40.50 (6.602)	-3.859	< .001
Critical Thinking- Thinking outside of the box	20.18 (5.551)	40.36 (5.005)	-4.628	< .001
Total score of CTDI	76.46 (17.654)	84.57 (9.481)	-3.212	.001



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Taipei Evidence-Based Practice Questionnaire (TEBPQ)

Subscales	Pretest, M (SD)	Post-test, M (SD)	t-Value	P-Value
Ask a PICO competency	12.43 (4.772)	19.29 (4.921)	-3.547	< .001
Access evidence competency	17.93 (7.216)	24.71 (5.993)	-3.304	.001
Appraisal evidence competency	9.43 (4.229)	13.79 (2.658)	-3.706	< .001
Application competency	14.11 (4.962)	21.21 (3.143)	-3.958	< .001
EBP attitude	15.29 (3.838)	17.61 (2.685)	-3.375	.001
Total EBP competency	69.178 (19.381)	96.607 (13.513)	-3.929	< .001



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Team work cooperation

Subscales	Pretest, M (SD)	Post-test, M (SD)	t-Value	P-Value
Independent study (8 items)	21.71 (6.49)	29.97 (2.31)	-6.881	< .001**
Group interaction (8 items)	24.21 (3.73)	25.34 (0.64)	-1.563	.130
Reasoning skills (6 items)	20.21 (5.53)	22.88 (1.91)	-2.302	.029*
Active participation (4 items)	13.39 (4.34)	15.56 (1.27)	-2.644	.013*
Total	82.82 (15.72)	91.59 (6.15)	-3.612	.001**

Self-efficacy of teaching EBP

Questions	Pretest, M (SD)	Post-test, M (SD)	Z-Value	P-Value
1. I have the confidence to teach “Ask a PICO”	3.32 (.945)	3.96 (.744)	-3.144	.002
2. I have the confidence to teach “Access the evidence “	3.21 (.787)	3.79 (.787)	-2.610	.009
3. I have the confidence to teach “the Appraisal of RCT”	2.82 (.612)	3.61 (.737)	-3.704	< .001
4. I have the confidence to teach “the Appraisal of Systematic Review”	2.75 (.752)	3.43 (.790)	-3.477	.001
5. I have the confidence to teach “the Application”	2.79 (.738)	3.59 (.747)	-3.640	< .001
6. I have the confidence to lead a group discussion of EBP	2.86 (.705)	3.54 (.637)	-3.343	.001
Total	17.750 (3.667)	21.7037 (3.450)	-4.060	< .001



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Student's reflection

Realize the important of evidence-based practice in nursing science

Understanding the advanced data bank searching ability

Closing the gap between knowledge and practice

Learning the different research methods and critical appraisal

Clinical utilization is the objective of learning

Active participation is the key in learning

Assess the EBP competency by myself



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The barriers of studying EBP

How to differentiate the methodology of various research publishes

English reading is the major barriers to appraisal evidence

Complicated statistic analysis is very difficulty for the new hand researcher

Not familiar with the data sources

Still need more exercise in clinical