教育理論到教學實踐研究
醫學教育研究經驗分享

台大醫學院 醫學教育暨生醫倫理研究所

邱晏麟 助理教授

工作經歷

- 台科大 數位學習與教育研究所
- 台師大 學習科學學士學位學程
- 屏科大 技術與職業教育研究所/師資培育中心
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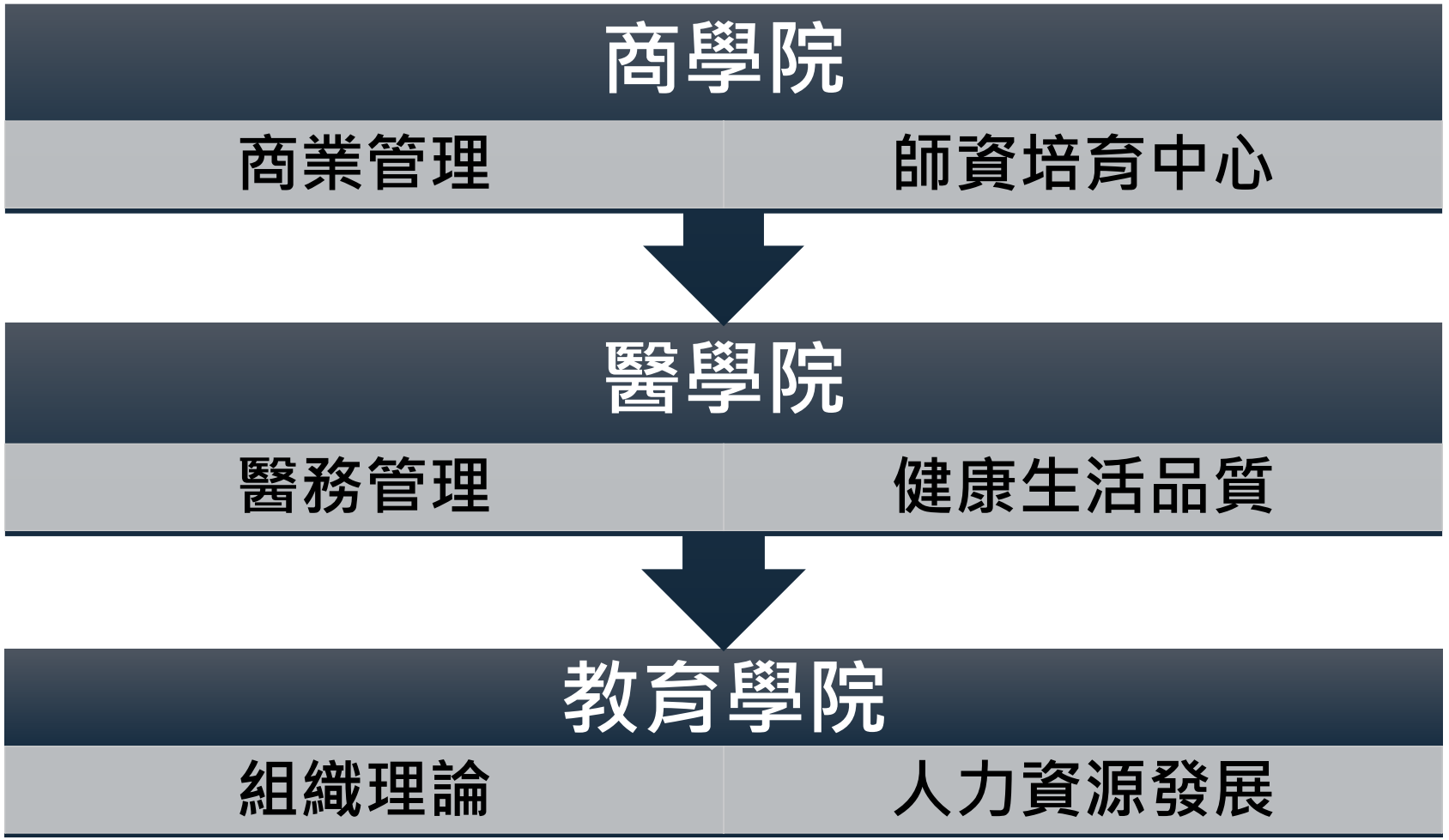
  台大醫學院 醫學教育暨生醫倫理(科)研究所

專業背景



研究領域 (數位學習)

- **Chiu, Yen-Lin**, Liang, Jyh-Chong, Tsai, Chin-Chung (2016, Sep). Exploring the roles of education and Internet search experience in students' **Internet-specific epistemic beliefs**. ***Computers in Human Behavior***, 62(2016), 286-291. (SSCI). PSYCHOLOGY, EXPERIMENTAL **3/91=0.03, IMF=10.09**
- **Chiu, Yen-Lin**, Liang, Jyh-Chong, Tsai, Chin-Chung (2015, Sep). Testing measurement invariance and latent mean differences across gender groups in college students' **Internet-specific epistemic beliefs**. ***Australasian Journal of Educational Technology***, 31(4), 486-499. (SSCI). EDUCATION & EDUCATIONAL RESEARCH **58/270=0.21, IMF=3.86**
- **Chiu, Yen-Lin**, Liang, Jyh-Chong, Tsai, Chin-Chung (2013). The effects of **Internet-specific epistemic beliefs** on self-regulated learning in the context of Internet-based academic information searching. ***Metacognition and Learning***. (SSCI) EDUCATION & EDUCATIONAL RESEARCH **109/270=0.40, IMF=4.17**

研究領域(醫學教育)

- Chiu, Yen-Lin, Chung, Ruey-Gwo, Wu, Chin-Shi, Ho, Chih-Hung (2009, Nov). The effects of job demands, control, and social support on hospital clinical nurses‘ intention to turn over. ***Applied Nursing Research***, 22(4), 258-263. (SSCI) Nursing **72/123, IMF = 2.645**
- **Chiu,Yen-Lin**, Liang, Jyh-Chong, Hou, Cheng-Yen, Tsai, Chin-Chung (2016, Jul). Exploring the relationships between epistemic beliefs about medicine and approaches to learning medicine: a structural equation modeling analysis. ***BMC Medical Education***,16:181. (SSCI). EDUCATION & EDUCATIONAL RESEARCH **77/270=0.29, IMF=3.71**
- **Chiu,Yen-Lin**, Liang, Jyh-Chong, Mao, Pili Chih-Min, Tsai, Chin-Chung (2016). Improving Health Care Providers’ Capacity for Self-Regulated Learning in Online Continuing Pharmacy Education: The Role of Internet Self-Efficacy. ***Journal of Continuing Education in the Health Professions*.** (SCIE). EDUCATION, SCIENTIFIC DISCIPLINES **29/44 =0.66, IMF=2.347**

研究領域(醫學教育)

- **Chiu, Yen-Lin***, Tsai, Chin-Chung, & Fan Chiang, Chih-Yun (2013, Apr). The relationships among nurses' job characteristics and attitudes toward Web-based continuing learning. ***Nurse Education Today***, 33(4):327-33. (SSCI) Nursing **8/123=0.065, IMF=4.718**
- **Chiu, Yen-Lin** & Tsai, Chin-Chung (2013). The roles of social factor and internet self-efficacy in nurses' web-based continuing learning. ***Nurse Education Today***, 34, 446-450. (SSCI) Nursing **8/123=0.065, IMF = 4.718**
- Lin, Ying-Li, Chen, Huey-Lin, Chen, Yen-Yuan, Cheng, Shao-Yi, Chen, Wei-Li, Chiu, Yu-Chun & **Chiu, Yen-Lin*** (2023, Jan). The effects of job characteristics on physicians' orientation toward lifelong learning. ***Advances in Health Sciences Education***, (online published). (SSCI) EDUCATION & EDUCATIONAL RESEARCH **64/270=0.237, IMF=4.057**

研究領域(資訊素養)

- **Chiu, Yen-Lin**, Lee, Yu-Chen, Tsai, Chin-Chung (2021, Mar). Internet-Specific Epistemic Beliefs in Medicine and Intention to Use Evidence-Based Online Medical Databases Among Health Care Professionals: Cross-sectional Survey. ***Journal of Medical Internet Research***, 23(3), e2003, 1-11. (SCIE) HEALTH CARE SCIENCES & SERVICES **10/109=0.09, IMF=7.68**
- **Chiu, Yen-Lin**, Tsai, Chin-Chung, Liang, Jyh-Chong (2022, Sep). Laypeople's Online Health Information Search Strategies and Use for Health-Related Problems: Cross-sectional Survey. ***Journal of Medical Internet Research***, 2022 Sep 2;24(9): e29609. (SCIE) HEALTH CARE SCIENCES & SERVICES **10/109=0.09, IMF=7.68**

研究領域(小班教學)

醫學教育暨生醫倫理研究所

國立台灣大學醫學院共同教育及教師培訓中心 **NTUCM研究群**

- Chao, Chia-Ter, **Chiu, Yen-Lin**, Tsai, Chiao-Ling, Lin, Mong-Wei, Yang, Chih-Wei, Ho, Chao-Chi, Chen, Yen-Yuan, Hsu, Chiun, Chen, Huey-Ling (2022, Nov). Moving from tangibility toward digitalization: investigating team dynamics and facilitator support among medical students in conventional and digital small-group tutorials. ***BMC Medical Education***, 22(1), 814. (第二作者)
- Tsai, Chiao-Ling, **Chiu, Yen-Lin**, Chao, Chia-Ter, Lin, Mong-Wei , Ho, Chao-Chi, Chen,Huey-Ling, Sheu, Bor-Ching, Hsu, Chiun & Yang, Chih-Wei (2022, Jul). Effectiveness of tutor shadowing on faculty development in problem-based learning. ***BMC Medical Education***, 22(1), 564. (第二作者)
- Chao, Chia-Ter, Ho, Chao-Chi, Hsu, Wei-Chung, Shieh, Jeng-Yi, Chen, Huey-Ling, Hsu Chiun, **Chiu, Yen-Lin**, Lin, Mong-Wei (2020, Nov). Deriving and validating an instrument for assessing students' perspectives on a completely digital problem-based learning curriculum during COVID-19. ***Journal of Medical Education (Taiwan)***, 24(4), 187-198

分享主題

- **教育理論 & 組織理論應用**
  - 知識信念(epistemic beliefs, **Ebs**)
  - 自我調整學習(self-regulated learning, **SRL**)
  - 工作特性模式(Job Characteristic Model, **JCM**)

理論導向

- **擬真模擬學習的評估**
  - 學習動機(**learning motivation**)
  - 自我效能(**self-efficacy**)、知識測驗(**MCQ**)
- **體驗學習的5R反思活動**
  - 體驗學習(**Kolb**)、**5R**反思活動(Ryan & Ryan)
- **VR遊戲運動介入對正向心理影響**

教學實踐

研究題目(組織理論 &教育理論)

1. **Chiu, Yen-Lin***, Tsai, Chin-Chung, & Fan Chiang, Chih-Yun (2013). The relationships among nurses' **job characteristics** and attitudes toward **web-based continuing learning**. ***Nurse Education Today*** *33*(4), 327-333.

- 衍伸：Chiu, Yen-Lin*, Chung, Ruey-Gwo, Wu, Chin-Shi, Ho, Chinh-Hung. (2009). The effects of **job demands, control and social support** on hospital clinical nurses' **intention to turn over**. ***Applied Nursing Research*** *22*(4), 258-263.

研究題目

2. Chiu, Yen-Lin & Tsai, Chin-Chung* (2014). The roles of **social factor** and **Internet self-efficacy** in nurses‘ web-based continuing learning. *Nurse Education Today 34*(3), 446-450.

3. Chiu, Yen-Lin, Liang, Jyh-Chong, Tsai, Chin-Chung*(2013). **Internet-specific epistemic beliefs** and **self-regulated learning** in online academic information searching. *Metacognition and Learning 8*(3), 235-260.

研究題目〈一〉

- The relationships among nurses' job characteristics and attitudes toward web-based continuing learning
  - Explore the relationships between
    - Job characteristics (C-JCQ)
      - job demands, job control and social support
    - Attitudes toward web-based continuing learning (AWCL)
  - 221 in-service nurses from hospitals in Taiwan were surveyed

研究題目〈一〉

To increase nurses' *utilization of web-based continuing learning*, it is important to explore the possible ***factors predicting their attitudes towards it***.

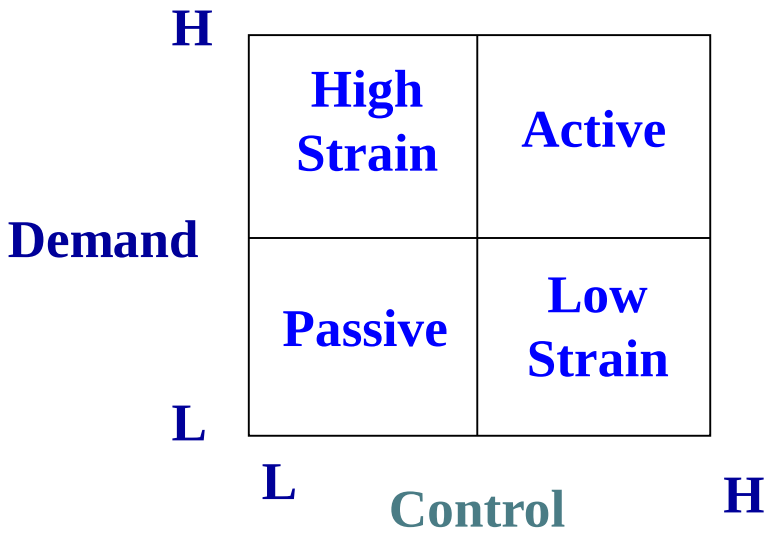
- Introduction
  - Undertaking continuing learning may enhance nurses' knowledge and improve their clinical practice (Lu et al., 2009; Smith and Topping, 2001).
  - Web-based learning was convenient, interesting for nurses and can improve their practice (Atack, 2003).
  - Web-based continuing education is very suitable for training in clinical practice (Beeckman et al., 2008).

研究題目〈一〉

The ***lack of*** implications of the JDC model for ***learning*** is of concern (Tari et al., 2003).

- Theoretical framework
  - Karasek's (1979) **Job Demand-Control model** (the JDC model)
  - Work environment could be characterized by a combination of job demands and the job control to cope with these demands.
  - Four job types：active, high strain, passive and low strain (Karasek and Theprell, 1990).
  - Employed in employees' health (e.g., de Jonge et al., 2010) and organizational behaviors (e.g., Chiu et al., 2009).

研究題目〈一〉

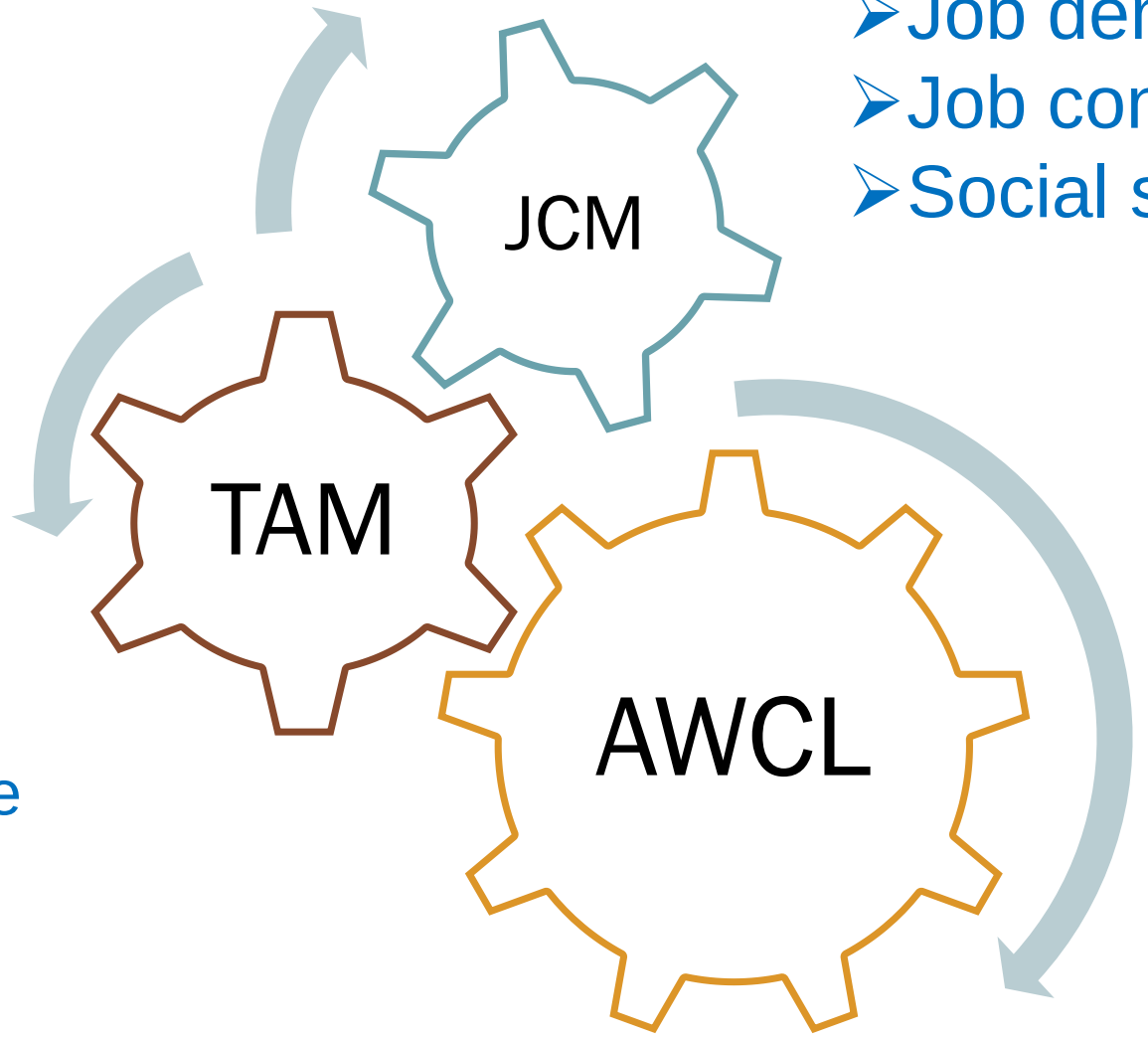


- Job characteristics have been linked to both outcomes of *strain* and *active learning* (Karasek, 1998).

- Having decision latitude (job control) over work processes will reduce a worker's stress but *increase learning*.
- Demands will increase both ***learning*** and *stress*.
- Job demands with lack of control are not associated with *increased learning*.

研究題目〈一〉

- Job demand
- Job control
- Social support



- Usefulness
- Ease of use
- Affection
- Behavior

研究題目〈一〉

Table 1 Means, standard deviations and correlations of variables

	Mean	SD [a]	1	2	3	4	5	6	7
1. Job demands	3.35	0.53							
2. Job control	2.93	0.53	-0.01						
3. Social support	3.22	0.50	0.13	0.25***					
4. Perceived usefulness	4.34	0.94	-0.05	0.19**	0.24***				
5. Perceived ease of use	4.53	0.94	-0.06	0.22**	0.22**	0.78***			
6. Affection	4.33	1.00	-0.04	0.22**	0.22**	0.80***	0.75***		
7. Behavior	3.74	0.94	0.08	0.24***	0.21***	0.53***	0.52***	0.54***	
8. AWCL[b]	4.23	0.82	-0.02	0.25***	0.26***	0.90***	0.89***	0.90***	0.75***

Note: [a] Standard deviation; [b] attitudes toward web-based continuing learning = (perceived usefulness + perceived ease of use + affection + behavior) / 4; ** $p < 0.01$ *** $p < 0.001$

Chiu et al. 2014. *Nurse Education Today 34*(3), 327-333.

研究題目〈一〉

Table 2 AWCL of four job type groups and ANOVA[a]

	N	Mean	SD	F	Post hoc [b]
1. High strain (high demand, low control)	79	4.10	0.85		
2. Passive (low demand, low control)	69	4.00	0.72		3 > 1
				9.27^{***}	3 > 2
3. Low strain (low demand, **high control**)	28	4.82	0.59		4 > 2
4. Active (high demand, **high control**)	45	4.46	0.83		

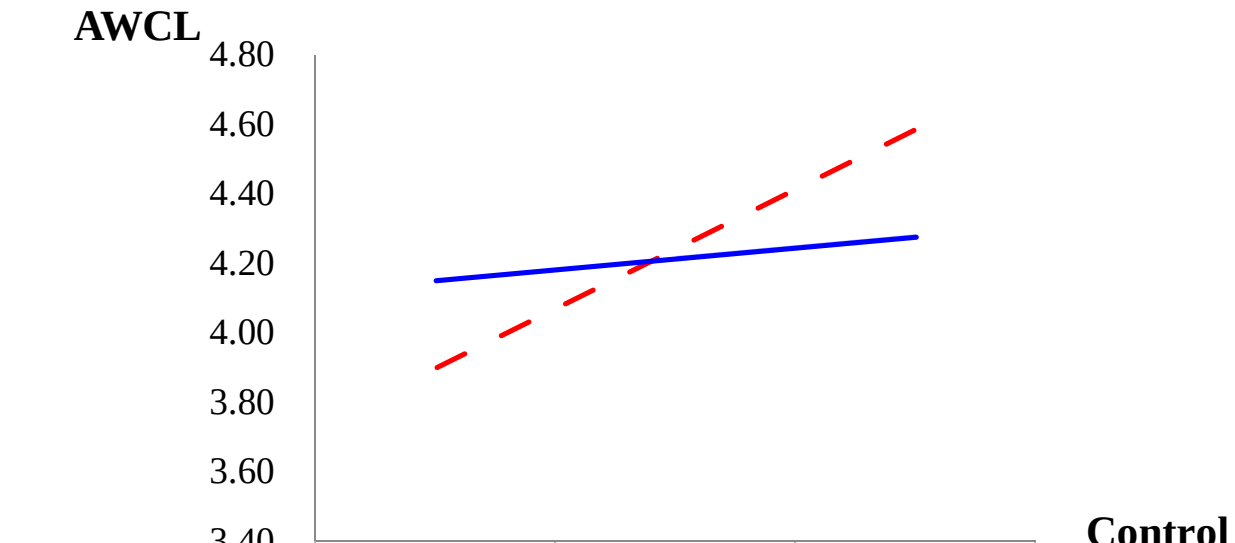
Note: [a] *df* between group = 3; *df* within group = 217; mean square between group = 5.603; mean square within group = 0.604; [b] Scheffe test

Chiu et al. 2014. *Nurse Education Today 34*(3), 327-333.

Table 3 Hierarchical regression results of attitudes toward web-based continuing learning (AWCL)

Steps and variables		Model 1			Model 2			Model 3		
		B	β [a]	*t*	B	β	*t*	B	β	*t*
1	Constant	4.37		7.57***	4.15		7.31***	4.32		7.65***
	Hospital level (0: regional,1: medical center)	-0.15	-0.09	-0.99	-0.12	-0.08	-0.84	-0.14	-0.09	-0.98
	Ownership of hospital (0: private 1: public)	0.10	0.06	0.64	0.12	0.07	0.83	0.14	0.08	0.93
	Unit (0: general, 1: special)	0.24	0.13	1.76	0.20	0.11	1.53	0.23	0.12	1.78
	Shift (0: fixed,1: varying)	-0.05	-0.03	-0.28	0.05	0.03	0.29	0.12	0.07	0.76
	Age (reference: 51-60 years)	-0.06	-0.03	-0.18						
	41-50 years	-0.20	-0.12	-0.49	-0.13	-0.06	-0.40	-0.24	-0.11	-0.74
	31-40 years	-0.02	-0.01	-0.04	-0.24	-0.14	-0.60	-0.37	-0.21	-0.92
	21-30 years	-0.06	-0.03	-0.18	-0.02	-0.01	-0.04	-0.14	-0.09	-0.30
	Education (reference: master)									
	Bachelor	0.25	0.15	0.94	0.34	0.21	1.35	0.34	0.20	1.37
	Junior college	-0.05	-0.03	-0.18	0.05	0.03	0.18	0.09	0.05	0.34
	Position (reference: head nurse)									
	Register nurse	0.12	0.07	0.53	0.14	0.08	0.63	0.05	0.03	0.21
	General nurse	0.03	0.01	0.11	0.07	0.03	0.26	-0.03	-0.02	-0.13
	Tenure of nursing experience	-0.05	-0.06	-0.39	0.01	0.01	0.06	-0.02	-0.02	-0.16
	Work hours (hours/week)	-0.01	-0.01	-0.18	-0.02	-0.02	-0.27	-0.04	-0.05	-0.64
	Internet usage (hours/week)	0.15	0.19	2.63**	0.14	0.18	2.48*	0.15	0.19	2.66**
2	Job demands				-0.03	-0.03	-0.44	-0.01	-0.01	-0.10
	Job control				0.16	0.21	2.94**	0.22	0.27	3.73***
	Social support				0.15	0.19	2.69**	0.14	0.17	2.50*
3	**Job demands × Job control**							**-0.15**	**-0.20**	**-2.70****
	Job demands × Social support							**-0.03**	**-0.04**	**-0.51**
	R^2 / $\triangle R^2$ / F	0.11/0.11/ 1.75*			**0.20/0.09/7.36*****			**0.24/0.036/4.50***		

Note: [a] standard coefficients; * $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$



	Low	Mean	High
Low demands	3.91	4.25	4.59
High demands	4.16	4.22	4.28

Figure 1 Interaction of job demands and control, for low (-1SD) and high (+1SD) levels of demands and control.

研究題目〈二〉

- The Roles of Social Factor and Internet Self-efficacy in Nurses' Web-based Continuing Learning
  - Explore the relationships among
    - Social factor
    - Internet self-efficacy
      - basic and advanced Internet self-efficacy
    - Attitudes toward web-based continuing learning (AWCL)
  - 244 in-service nurses from hospitals in Taiwan were surveyed
  - Structural equation modeling (SEM)

研究題目〈二〉

- Theoretical framework
  - The propositions of **TAM** (Davis et al., 1989) specified that external variables may have effects on attitudes, and then the behavioral intentions are influenced by these attitudes.
  - According to **Bandura** (1997), social factor may enhance Internet self-efficacy.
  - Related research
    - Internet self-efficacy may improve nurses' attitudes toward web-based continuing learning.
    - social factor may be positively correlated to AWCL(Cheng et al., 2012; Lee et al., 2011).
    - Behavioral intention may be determined by social factor (Karaali et al., 2011).

The hypothesized model

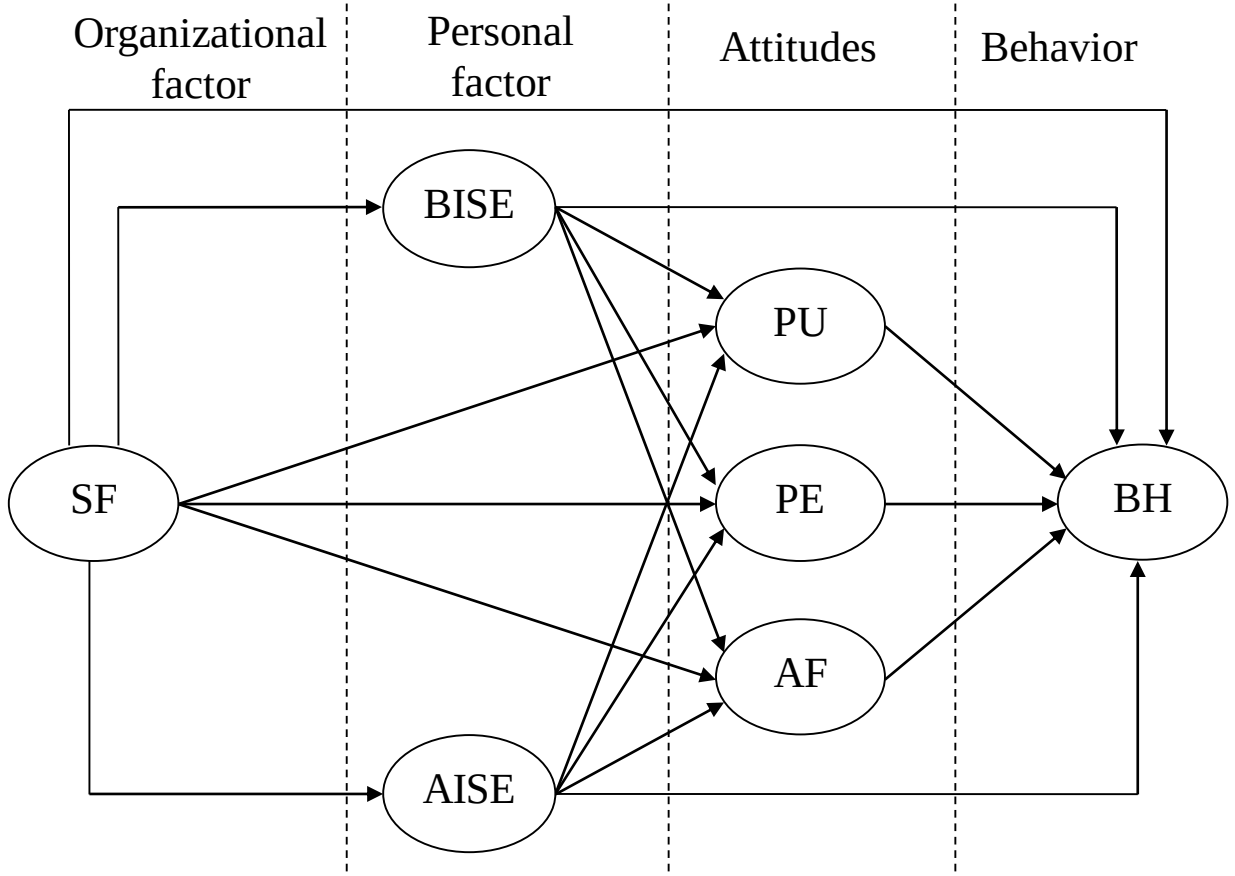
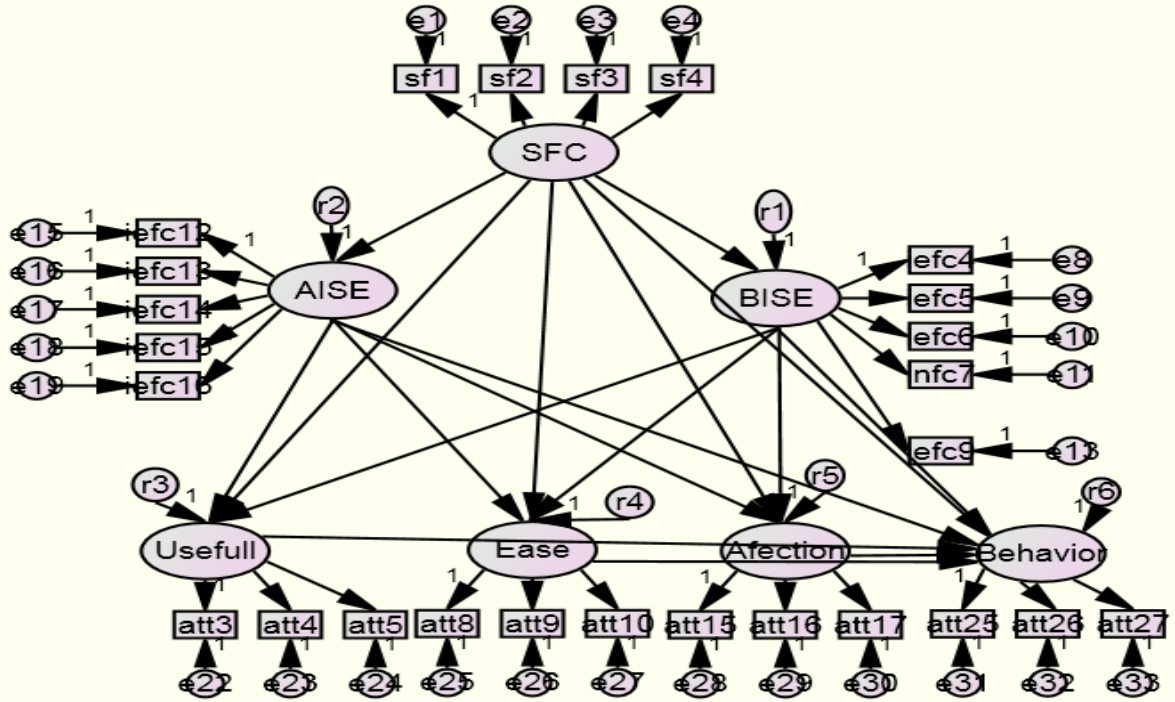


Figure 1. The hypothesized model of structural relations among SF, BISE, AISE, PU, PE, AF and BH.
SF: social factor; BISE: basic Internet self-efficacy; AISE: advanced Internet self-efficacy; PU: perceived usefulness; PE: perceived ease of use; AF: affection
BH: behavior.

Chiu YL et al., 2014Nurse Education Today 34(3), 446-450.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RMSEA = 0.058, χ^2/df = 1.82, GFI = 0.87, NFI = 0.94, and CFI = 0.97

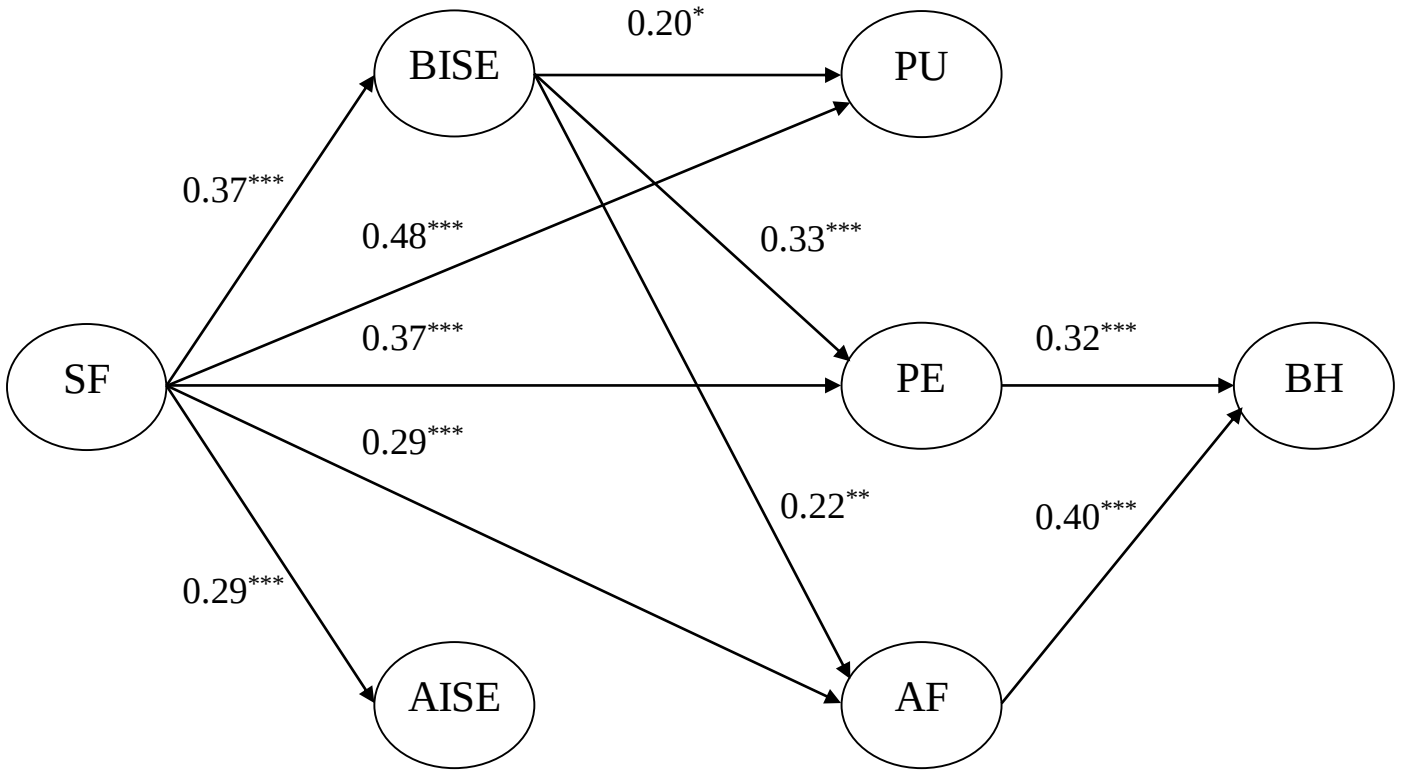


Figure 2. The path coefficients of structural relations among SF, BISE, AISE, PU, PE, AF and BH. SF: social factor; BISE: basic Internet self-efficacy; AISE: advanced Internet self-efficacy; PU: perceived usefulness; PE: perceived ease of use; AF: affection
BH: behavior. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

研究題目〈三〉

- Internet-specific epistemic beliefs and self-regulated learning in online academic information searching
  - Explore the relationships between
    - Internet-specific epistemic belief (ISEQ)
      - Certainty, Simplicity, Source and justification
    - Self-regulated learning (SRL)
      - Preparatory SRL, Enactment SRL
  - 758 university students were sampled.

研究題目〈三〉

- Introduction
  - The use of the **Internet** by students for academic information searching has become widespread (Mason & Boldrin 2008).
  - While searching for online information, students have to engage in **epistemic reflections** on the accessed knowledge by **activating their epistemic beliefs** (Mason, Ariasi, & Boldrin 2010b).
  - **Self-regulated learning** is critical for successful online learning (Lee & Tsai 2011; Strømsø & Bråten 2010)

Theoretical Model

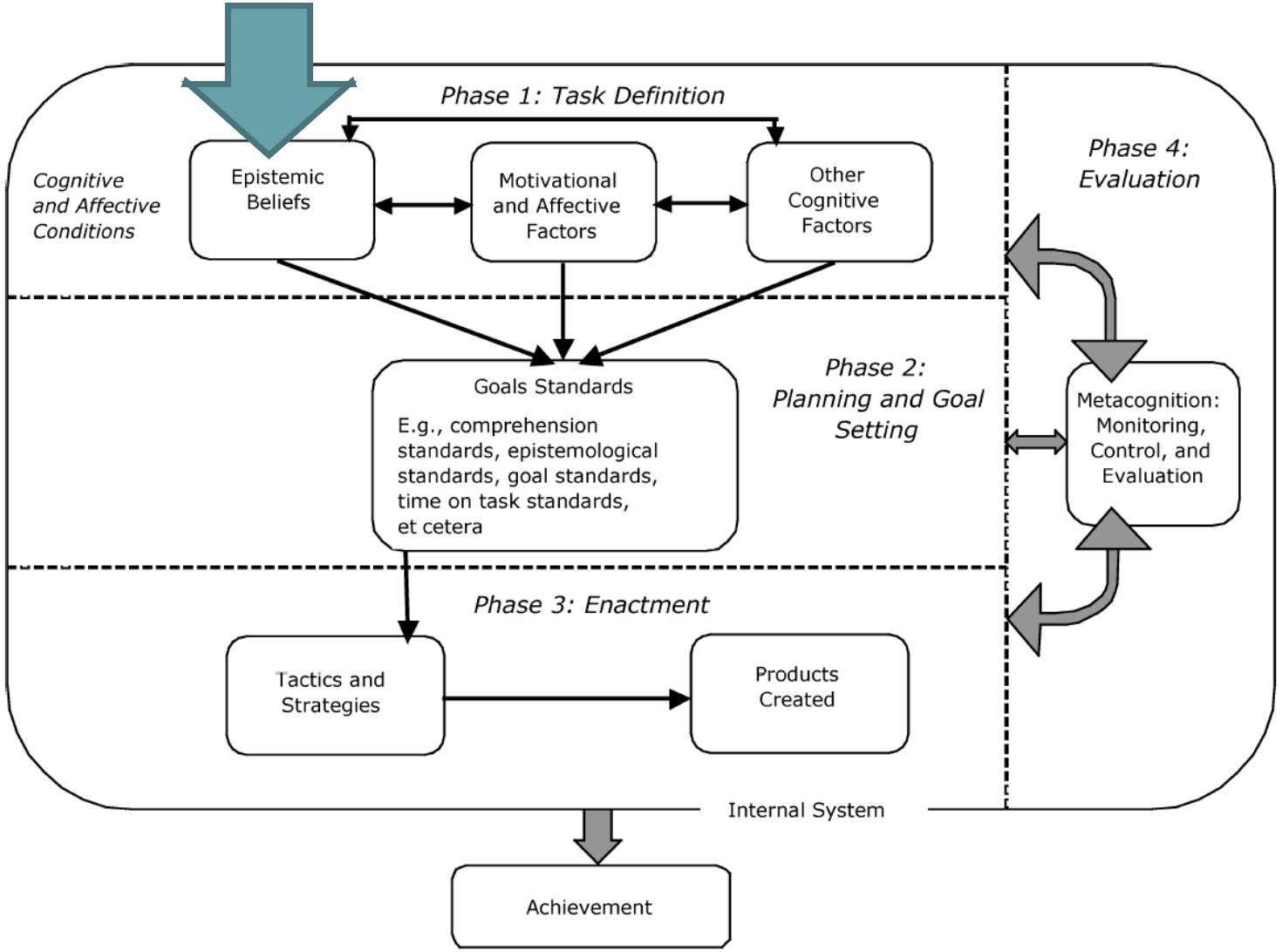
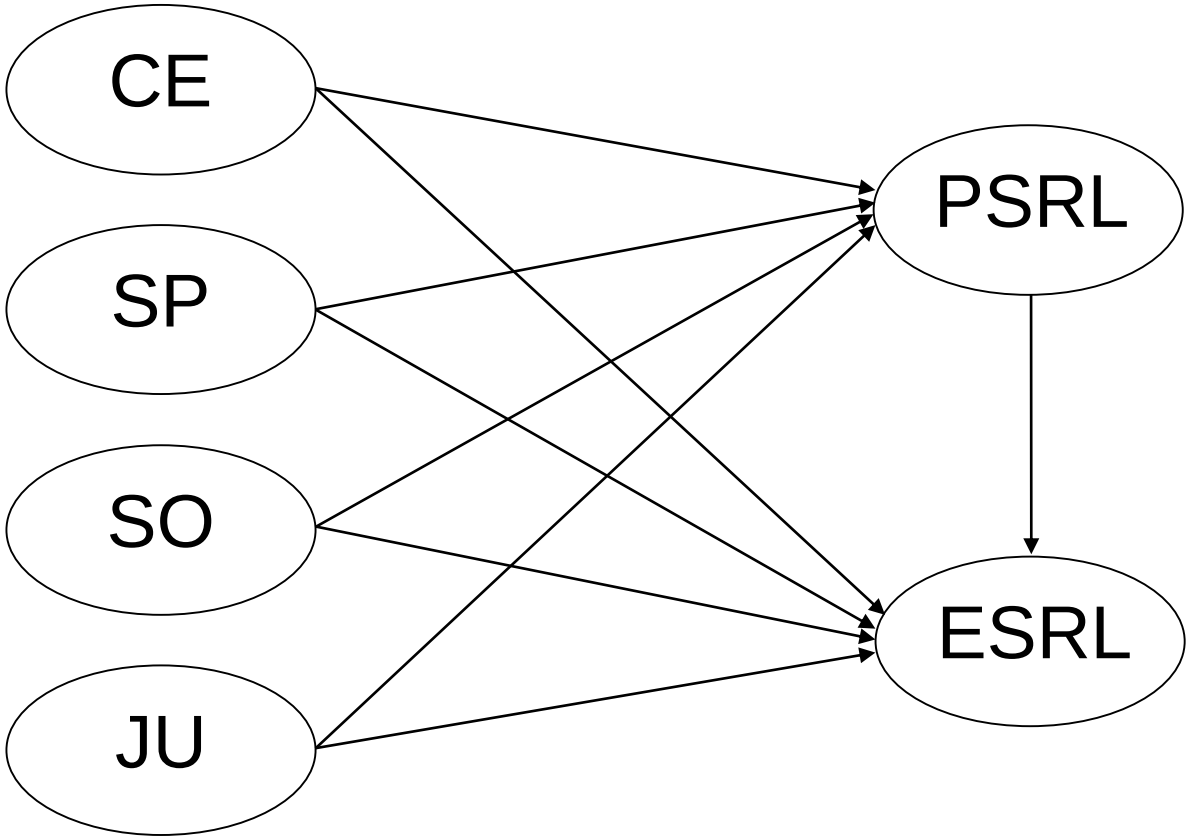


FIGURE 1 An integrated model of epistemic beliefs and self-regulated learning.

Muis, K R. (2007), *EDUCATIONAL PSYCHOLOGIST, 42(3),* 173–190.

The hypothesized model of relationships between ISEB and SRL



Note: CE, certainty of Internet-based knowledge; SP, Simplicity of Internet-based knowledge; SO, source of Internet-based knowledge; JU, justification for Internet-based knowing; PSRL, preparatory SRL; ESRL, enactment SRL.

Exploratory factor analysis for ISEQ (n =150)

Items	Factors and loadings			
When I need to search for course-related information on the Internet, I believe that….	JU	SO	SP	CE
JU2. I would evaluate the logicality of the course-related knowledge that I find on the Internet.	**.922**	-.018	-.101	-.035
JU1. I would compare knowledge from diverse sources to evaluate the trustworthiness of course-related knowledge that I find on the Internet.	**.919**	-.086	-.165	-.102
JU3. I would check more knowledge sources about the same topic to evaluate course-related knowledge claims that I encounter on the Internet.	**.879**	.036	-.173	-.082
SO2. There are many sources on the Internet that provide most of the knowledge related to my courses (reversed item).	-.006	**.893**	.223	.100
SO3. I could find most of what is true in the field of my study on the Internet (reversed item).	.001	**.823**	.308	.241
SO1. Various sources on the Internet provide the correct answer to questions related to my course work (reversed item).	-.051	**.678**	.219	.359
SP2. The Internet contains simple and concrete knowledge related to study topics in my classes (reversed item).	-.204	.216	**.814**	.135
SP3. The Internet contains a lot of specific information related to study in my classes (reversed item).	-.210	.278	**.794**	.160
SP1.The Internet offers abundant details about topics related to my study (reversed item).	-.094	.215	**.785**	.189
CE3. When I encounter difficulties in my course work, I feel relieved to find experts' statements about them on the Internet (reversed item).	-.133	.097	.147	**.824**
CE2. I could find accurate knowledge about the topics I study on the Internet (reversed item).	-.034	.314	.201	**.798**
CE1. The Internet contains correct answers related to questions about my course work (reversed item).	-.070	**.533**	.157	**.631**
Cronbach's alphas	(.912)	(.850)	(.828)	(.791)

Note: n = 150; CE, certainty of Internet-based knowledge; SP: Simplicity of Internet-based knowledge; SO, source of Internet-based knowledge; JU, justification for Internet-based knowing.

Coefficients with absolute values of 0.45 or greater are in boldface (Hair et al. 2006).

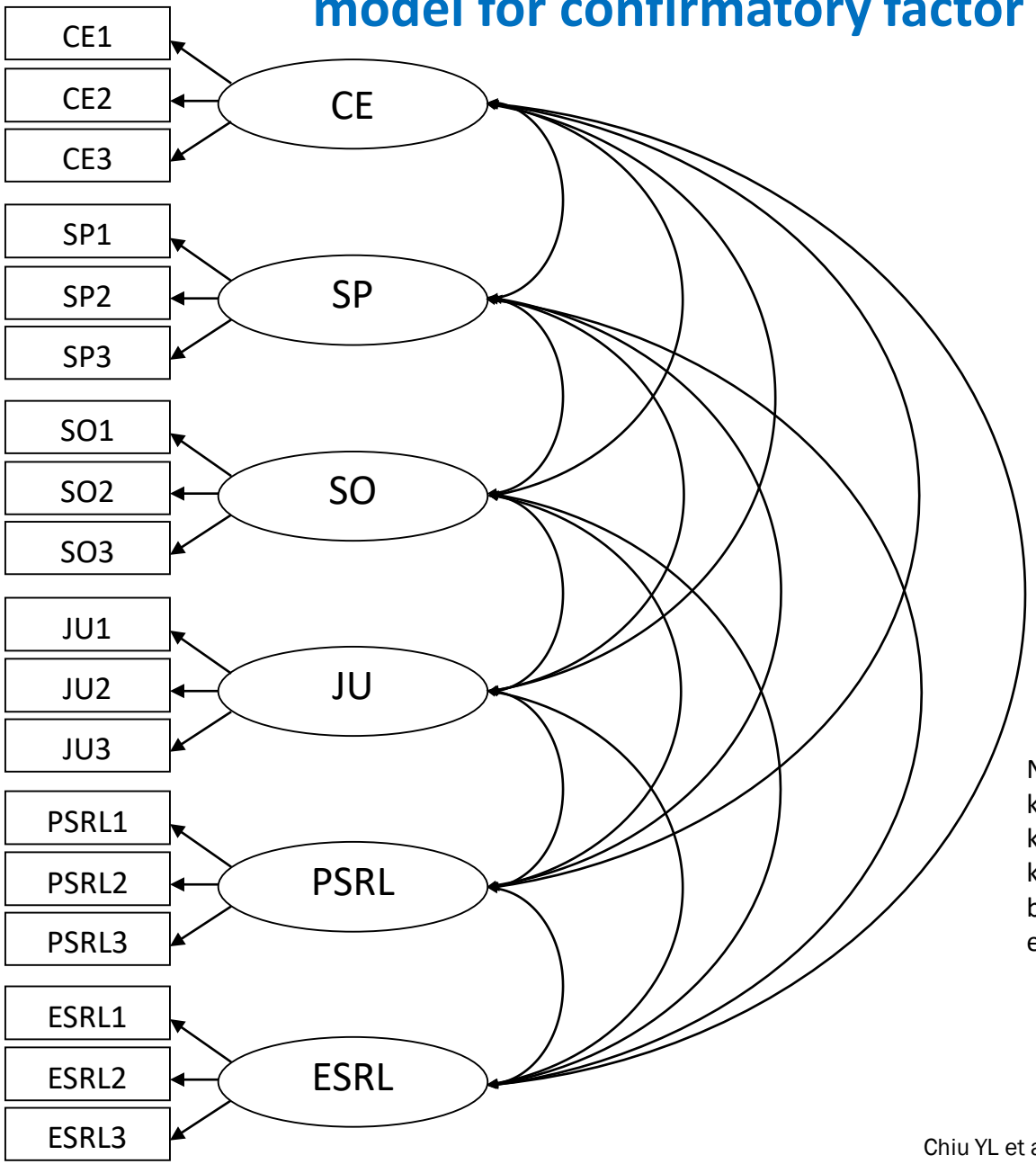
Coefficients in parenthesis are Cronbach's alphas.

Exploratory factor analysis for SRL (n=150)

Items	Factors and loadings	
When searching for course-related information in Internet-based environments ….	Enactment SRL	Preparatory SRL
ESRL1. I learned at my own pace.	**.858**	.149
ESRL3. I improved my learning approaches while studying on the Internet.	**.819**	.282
ESRL2. I evaluated or reviewed my learning effectiveness.	**.778**	.346
PSRL1. I set my own learning goals.	.101	**.890**
PSRL3. I explored what I want to learn further.	**.456**	**.688**
PSRL2. I decided on an appropriate strategy while studying on the Internet.	**.539**	**.648**
Cronbach's alphas	(.840)	(.786)

Note: n = 150; Coefficients with absolute values of 0.45 or greater are in boldface.
Coefficients in parenthesis are Cronbach's alphas.

The constructs of ISEB and SRL included in one single model for confirmatory factor analysis (n=240)



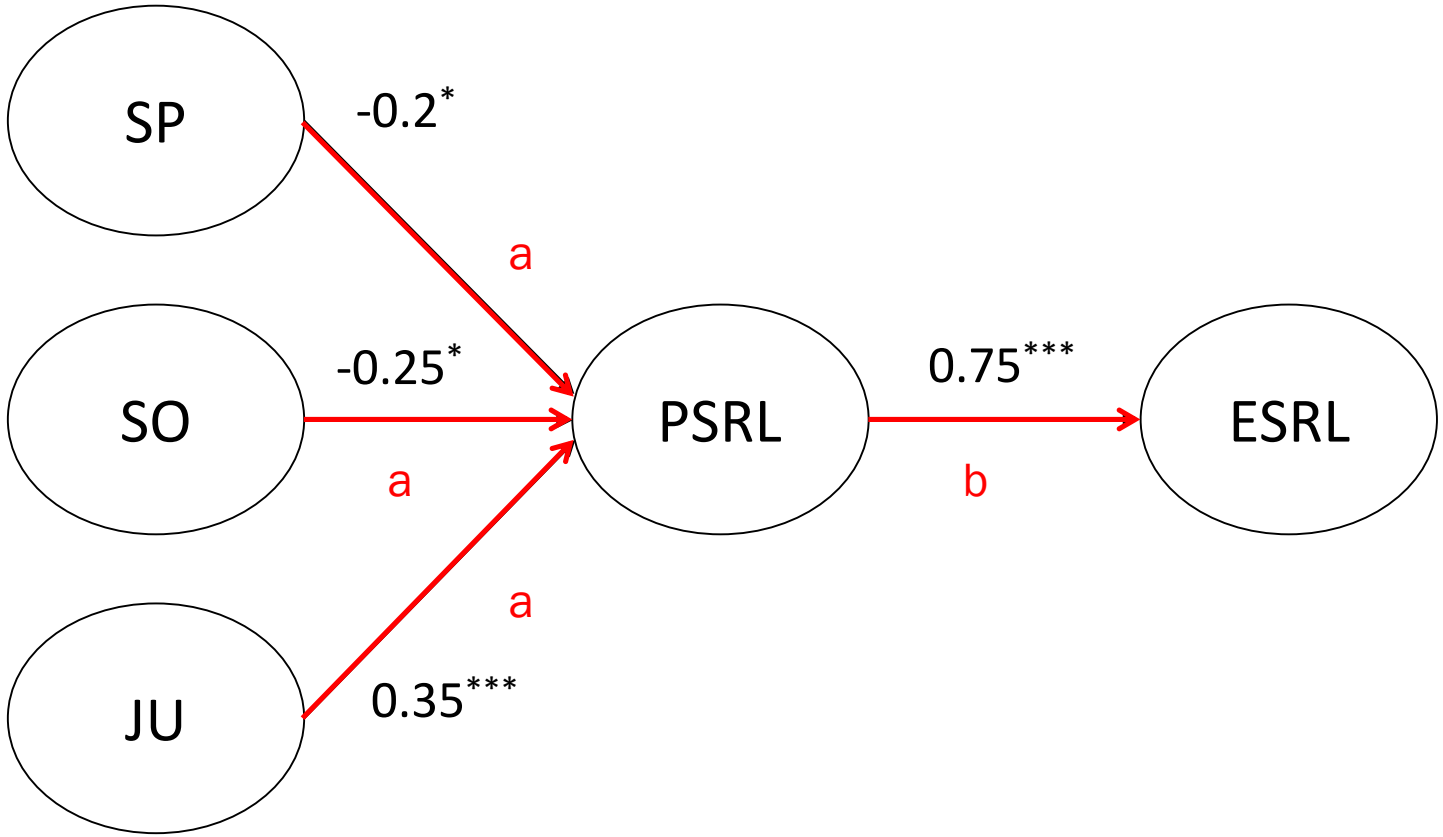
Note: CE, certainty of Internet-based knowledge; SP, Simplicity of Internet-based knowledge; SO, source of Internet-based knowledge; JU, justification for Internet-based knowing; PSRL, preparatory SRL; ESRL, enactment SRL.

Confirmatory factor analysis for ISEQ and SRL

	skew	kurtosis	λ	R^2	δ	CR	AVE
CE1. The Internet contains correct answers related to questions about my course work (reversed item).	0.18	-0.30	0.83	0.69	0.31		
CE2. I could find accurate knowledge about the topics I study on the Internet (reversed item).	0.41	0.10	0.75	0.56	0.44	0.78	0.55
CE3. When I encounter difficulties in my course work, I feel relieved to find experts' statements about them on the Internet (reversed item).	0.60	0.34	0.62	0.39	0.61		
SP1. The Internet offers abundant details about topics related to my study (reversed item).	0.54	0.35	0.79	0.62	0.38		
SP2. The Internet contains simple and concrete knowledge related to study topics in my classes (reversed item).	0.21	-0.02	0.79	0.63	0.37	0.84	0.64
SP3. The Internet contains a lot of specific information related to study in my classes (reversed item).	0.53	0.40	0.82	0.68	0.32		
SO1. Various sources on the Internet provide the correct answer to questions related to my course work (reversed item).	0.21	-0.61	0.65	0.43	0.57		
SO2. There are many sources on the Internet that provide most of the knowledge related to my courses (reversed item).	0.40	-0.42	0.85	0.72	0.28	0.85	0.66
SO3. I could find most of what is true in the field of my study on the Internet (reversed item).	0.26	-0.61	0.92	0.84	0.16		
JU1. I would compare knowledge from diverse sources to evaluate the trustworthiness of course-related knowledge that I find on the Internet.	-0.68	1.02	0.87	0.75	0.25		
JU2. I would evaluate the logicality of the course-related knowledge that I find on the Internet.	-0.50	0.63	0.80	0.64	0.36	0.86	0.67
JU3. I would check more knowledge sources about the same topic to evaluate course-related knowledge claims that I encounter on the Internet.	-0.52	0.71	0.79	0.63	0.37		
PSRL1. I set my own learning goals.	-0.50	0.06	0.61	0.37	0.63		
PSRL2. I decided on an appropriate strategy while studying on the Internet.	-0.35	0.05	0.86	0.73	0.27	0.78	0.54
PSRL3. I explored what I want to learn further.	-0.62	0.43	0.72	0.52	0.48		
ESRL1. I learned at my own pace.	0.07	-0.46	0.72	0.52	0.48		
ESRL2. I evaluated or reviewed my learning effectiveness.	-0.12	-0.21	0.81	0.66	0.34	0.82	0.61
ESRL3. I improved my learning approaches while studying on the Internet.	-0.39	0.34	0.80	0.64	0.36		

Note: n = 240; λ: standardized coefficient; R^2: variance explained; δ: measure error; CR: composite reliability; AVE: average variance extracted

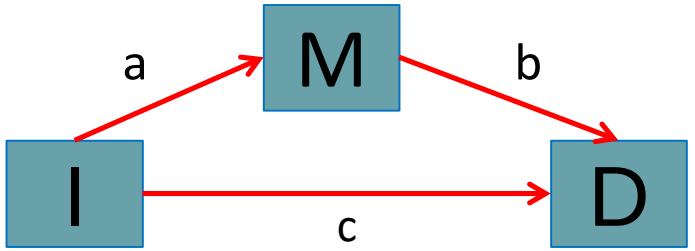
The simplified structural equation model



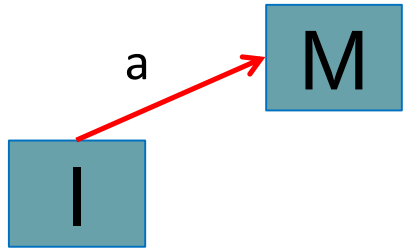
Note: The path coefficients are standardized coefficients. SP: Simplicity of Internet-based knowledge; SO, source of Internet-based knowledge; JU, justification for Internet-based knowing; PSRL, preparatory SRL; ESRL, enactment SRL. * $p < 0.05$ *** $p < 0.001$

Chiu YL et al. (2013). Metacognition and Learning 8(3), 235-260

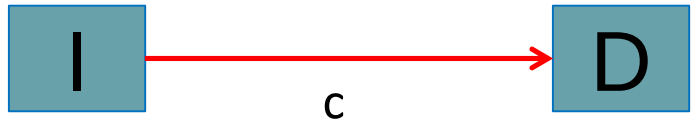
Mediator



1



2



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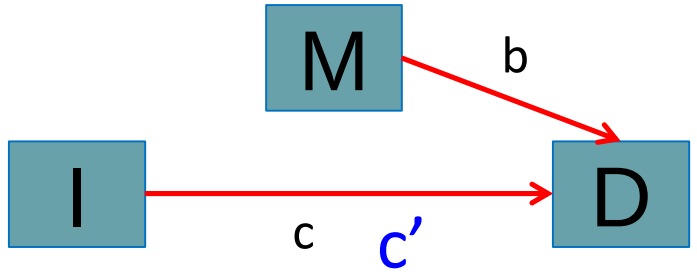


c' 不顯著
或 c' < c

Sobel test

Mediator Effects

Mediation relationships of preparatory SRL between epistemic beliefs and enactment SRL

	Coefficients	SE	S_{ab}	Sobel Z
SP				
Path a (SP→PSRL)	-0.201	0.059	0.051	-2.971
Path b (P_SRL→ESRL)	0.753	0.119		
SO				
Path a (SO→PSRL)	-0.252	0.084	0.071	-2.684
Path b (P_SRL→ESRL)	0.753	0.119		
JU				
Path a (JU→PSRL)	0.353	0.053	0.058	4.561
Path b (PSRL→ESRL)	0.753	0.119		

Note: CE, certainty of Internet-based knowledge; SP, Simplicity of Internet-based knowledge; SO, source of Internet-based knowledge; JU, justification for Internet-based knowing; PSRL, preparatory SRL; ESRL, enactment SRL.

$$S_{ab} = \sqrt{a^2 \times SE_b + b^2 \times SE_a + SE_a^2 \times SE_b^2}$$

$$\text{Sobel } Z = (a \times b)/S_{ab}$$

Testing moderator and mediator effects

- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology. *Journal of Counseling Psychology, 51*(1), 115-134.
- MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., & Sheets, V. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7* (1), 83-104.
- MacKinnon, D.P., Fairchild, A.J., & Fritz, M.S. (2007). Mediation analysis. Annual Review of Psychology, 58, 593-614.
- Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs, 76* (4), 408-420.
- Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables. Bootstrapping with structural equation models. *Organizational Research Methods, 11*(2), 296-325.

經驗分享

- **有趣的研究題目**
  - 研究是條『慢』漫長路
  - 知音千里難覓(vs. 新興研究趨勢)
- **充足的理論背景**
  - 天馬行空的創意(可以/不可以?)
  - JCM, TAM, SRL

經驗分享

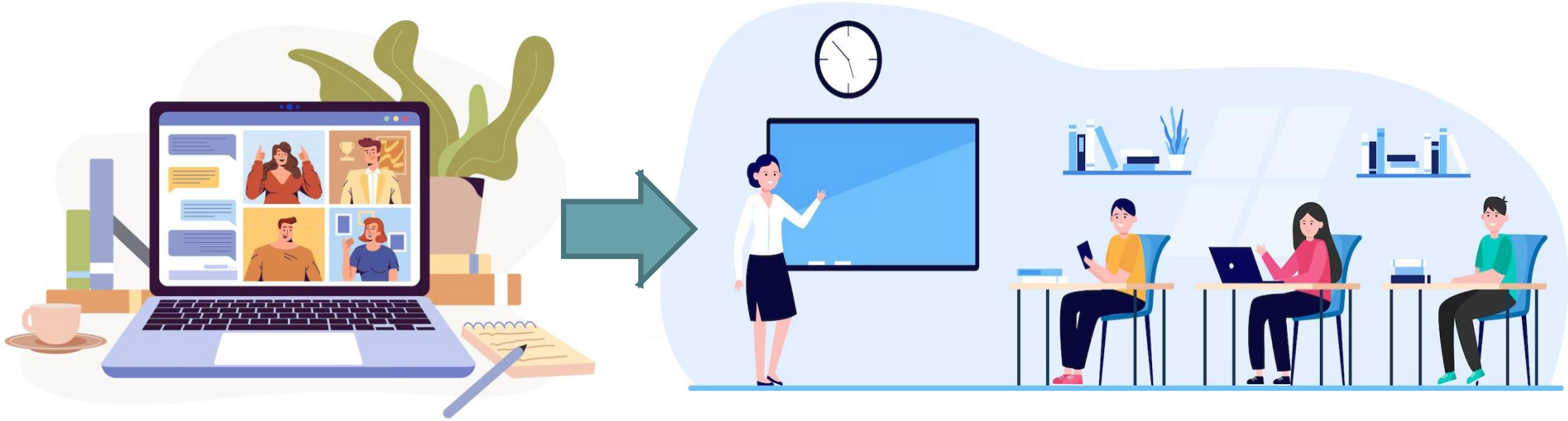
- Garbage in garbage out
  - 嚴謹的研究工具
    - 信度、效度
    - EFA vs. CFA
- 數字自己不會說話
  - 數據意義的判讀解釋(人為的)
  - 拒絕虛無假設 ($p < 0.05$)
    - 非預期的發現 (有趣的發現)

學術榮譽

- 科技部博士後研究人員學術論文獎
- 國科會『年輕優秀學者』

從電腦前到課室講台前

Medical Education Researcher vs. Medical Educator (?)



從教育理論到教學實踐

- 教育部教學實踐研究計畫
- 財團法人健康科學文教基金會暨國家衛生研究院醫學系學生暑期計畫

人與科技體驗學習
體驗學習5R反思活動

一、課程目標 (人與科技體驗學習)

- 認識醫學發展以及解剖學發展
- 回應現代醫學科技對醫療影響
- 激發學生深度的**醫學人文反思**
- 涵養**同理心**的**醫學人文素養**




體驗學習

二、文獻探討

A. 醫療科技與醫學人文

B. 醫學人文的教育改革

C. 醫學人文涵養同理心

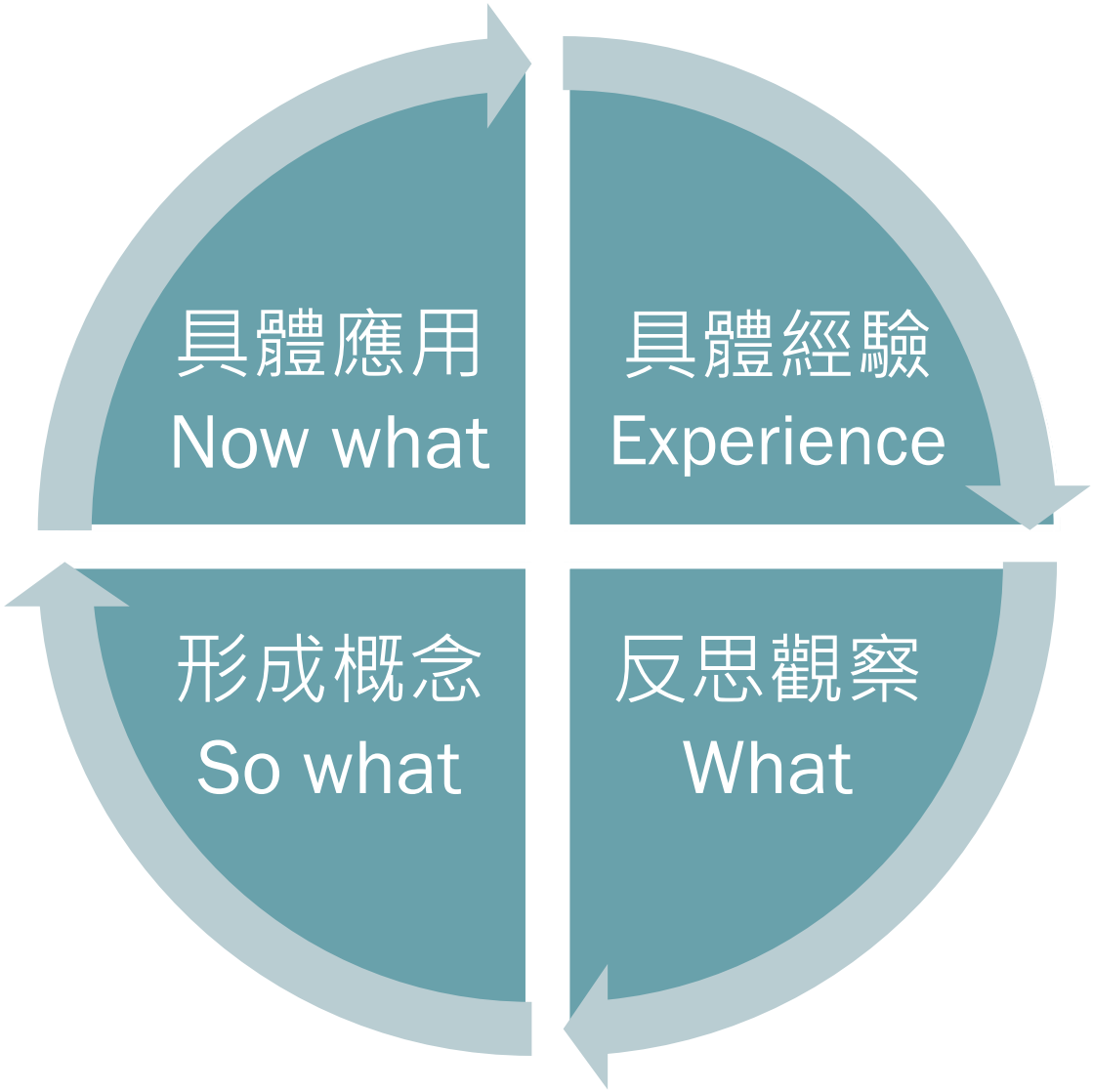
D. 醫學人文的教學方法

E. 醫學人文與體驗學習

F. 醫學人文與大體解剖

Kolb體驗學習圈

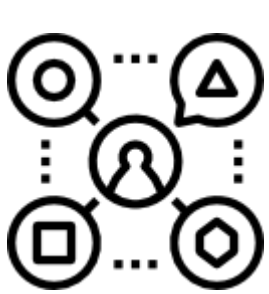
- **具體經驗**
  - 新經驗、舊經驗新體會
- **反思觀察**
  - 從新經驗中觀察與反思
- **形成概念**
  - 理解經驗，形成合乎邏輯的新概念。
- **具體應用**
  - 應用在實際生活解決問題



三、研究問題

- 如何幫助學生進行**深度**的**醫學人文反**
- 如何評估學生們在體驗學習的**學習成**

四、5R反思學習活動



- **報導(Report)**：報導**事件**與**議題**
- **回應(Respond)**：回應自身**看法**並提出**疑問**
- **連結(Relate)**：把事件和**經驗**或**知識**加以連結
- **推論(Reason)**：找出重要的**解釋因素**、進而**提出推論**
- **重建(Reconstruct)**：**修正**未來做法、**思考其他方案**與後果

臉書社群心得分享



- 社群分享
  - 目的：增加同學心得分享的互動與回饋，理解其他同學的不同看法。
- 臉書社群分享一篇(以上)心得
  - 按照5R反思學習架構
    - 報導、回應
    - 連結、推論、重建

- 選擇一篇(以上)心得給予回饋
  - 回應：個人看法與心得
  - 連結：與相關經驗連結
  - 推論：其他的解釋因素
  - 重建：其他的建議作法

110年人與科技體驗學習

搜尋 Facebook

Yenlin Chiu

管理社團

110年人與科技體驗學習(一)
私密社團

首頁

管理員工具

管理員小幫手
0 個動作、 0 項條件

社團加入申請
今天有 0 則新成員加入申請

自動批准成員加入

入社必答問題

待審貼文
今天有 0 則新的待審貼文

排定發佈的貼文

活動紀錄

社團規則

遭成員檢舉的內容
今天有 0 則遭檢舉的新限時動態

110年人與科技體驗學習(一)

已加入 | + 邀請

Yenlin Chiu 建立了 110年人與科技體驗學習(一) 社團。
管理員 · 9月27日下午1:16 ·

1 則留言 16人已看過

讚 | 留言

所有留言

Yenlin Chiu 管理員
此社團提供選修110年人與科技體驗學習(一)的學生進行心得分享與討論，希望幫助學生獲得更活潑與互動的討論。同學可以在每個單元主題下方的留言區，張貼個人的課後心得(至少一個單元)，以及對其他同學的心得提供留言回饋(至少一次)。

讚 · 回覆 · 6天 · 已編輯

留言.....

最新動態

Yenlin Chiu
管理員 · 9月28日上午2:12 ·

主題一
台灣解剖學推手/醫學生的五感體驗
** 請於下方留言處撰寫5R心得
** 請針對一篇心得在留言回饋

Huey-ling Chen和其他2人 9則留言 19人已看過

讚 | 留言

關於

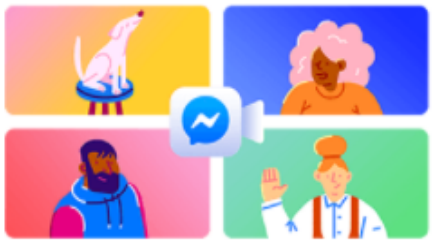
此社團提供選修110年人與科技體驗學習(一)的學生進行心得分享與討論，希望幫助學生獲得更活潑與互動的討論。

私密
只有成員可以查看社團成員名單和他們發佈的貼文。

開放搜尋
所有人都能找到這個社團。

一般

包廂



透過視訊聊天凝聚社團成員
建立包廂，與其他成員透過視訊聊天即時聯繫。

建立包廂

五、教學暨研究成果

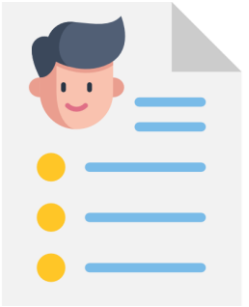
專業認同Professional Identity

六、建議與省思

- 學生的回饋
  - 正向收穫
    - 反思最初的“習醫”初衷 (重新找回**熱情**跟**動機**)
    - 做中學，提高學習的**投入(engagement)**與**信心(confidence)**
  - 回饋意見
    - 分享心得如同作文競賽(**同儕競爭的壓力**)
- 老師的期待
  - 閱讀學生心得報告，感受**真心**與**溫度**。

六、建議與省思

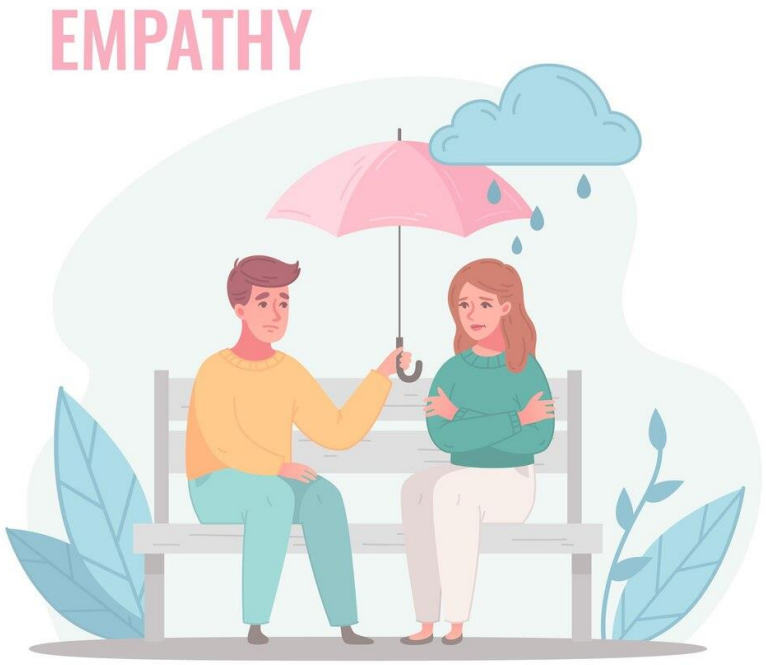
- 對未來成效評估的建議
  - 量化評估：醫學**學習信心**、**專業認同**
  - 質性評估：反思心得(分享如何避免競爭)
- 其他評估方式
  - **Biography 傳記**>>> Professional Identity 專業認同
  - **Drawing 繪圖**>>> Nature of Medicine 醫學本質



希望(Hope)是同理心的預測因子

- Trust & Confidence
  - 我有很深的內在力量
  - 每天都有無限的可能
  - 我的生命是有價值的
- Positive future
  - 期待做我喜歡的事情
  - 我打算充分利用人生
  - 我會規劃自己的未來
- Lack of perspective (反)
  - 對生活某些部分絕望
  - 對大多事務漠不關心
- Social relation & Personal value
  - 我感到被愛
  - 我是被別人需要的
  - 我受到重視，因為我就是我

六、建議與省思



建議

- 長期追蹤觀察醫學生的正向心理(positive psychology)
- 鼓勵規律與經常性的運動習慣
- 尋找其他可能提升正向心理的介入措施
  - 例如：音樂、繪畫、閱讀

整體反思

- 醫學校校長高木友枝

  「做醫生之前，先懂得做人」

  - **醫學生=海量醫學知識+眾多素養**(倫理、人文、社會.....)

- 個人期許(**Medical Educator**)

  『做醫生之前，先懂得做有HOPE的人』

感謝聆聽

敬請討論指導