Theory of Planned behaviour: Higher education students' attitudes towards ICT-based learning interactions

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University Life | The Learning Centre

Introduction

Curtin University | the little blue writing book^online : essays | Created by The Learning Centre
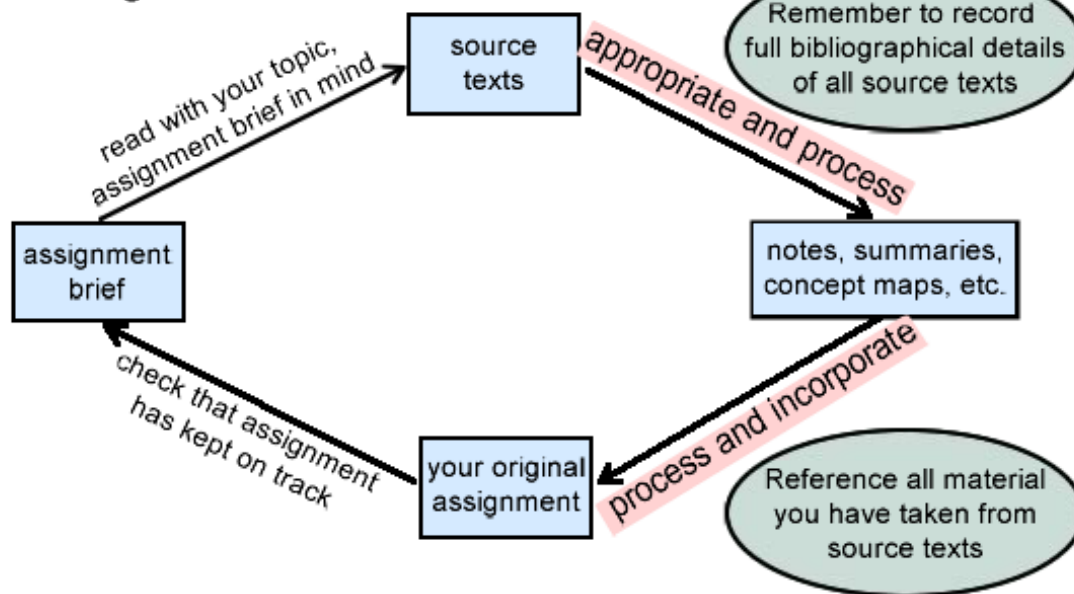
Step 5: Write the Middle Paragraphs

The following provides an audio-visual representation of the **Writing from sources** diagram.
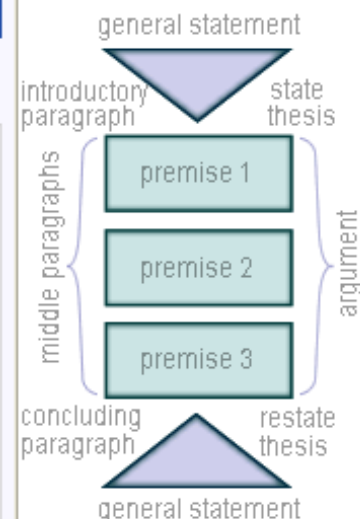
Writing from sources

read with your topic, assignment brief in mind

source texts

appropriate and process

Remember to record full bibliographical details of all source texts

assignment brief

notes, summaries, concept maps, etc.

check that assignment has kept on track

your original assignment

process and incorporate

Reference all material you have taken from source texts

Restart   Next

essay model
- move cursor over image -

general statement

introductory paragraph   state thesis

middle paragraphs

premise 1

premise 2

premise 3

argument

concluding paragraph   restate thesis

general statement

wiki activity

After completing this section, click here to view the Wiki Activity.

Introduction

Examining students' perceived attitudes towards this online resource for predicting when they are most likely to seek voluntary assistance with improving their academic writing skills was of interest to The Learning Centre.

The Theory of Planned Behaviour (Fishbein & Ajzen, 1980) has been used to investigate influence of beliefs and attitudes towards several social and personal behaviours (e.g., technology use, hunting, weight loss, committing traffic violations, willingness to vote, use of public transport, etc.).

Therefore, the TPB provided a useful framework for examining students' attitudes towards such online programs.

From February to December 2010, 52 students completed the online questionnaire provided at the end of the programs which looked at the instructional effectiveness and the components of the Theory of Planned Behaviour.

Attitude Formation

Attitudes, beliefs and behaviour are linked, with roots in emotions, behaviour and social influences. They are described in dimensions such as good-bad, likeable-dislikeable, harmful-beneficial, pleasant-unpleasant.

Students approaching an ICT-based interaction may have already based their attitudes from past experience with interactions such as formal learning situations which incorporated ICT and technologies available on a daily basis.

Behavioural patterns, formed from their attitudes, may have already developed towards interacting with technology. This study investigated the attitudes that coincide with those behavioural patterns.

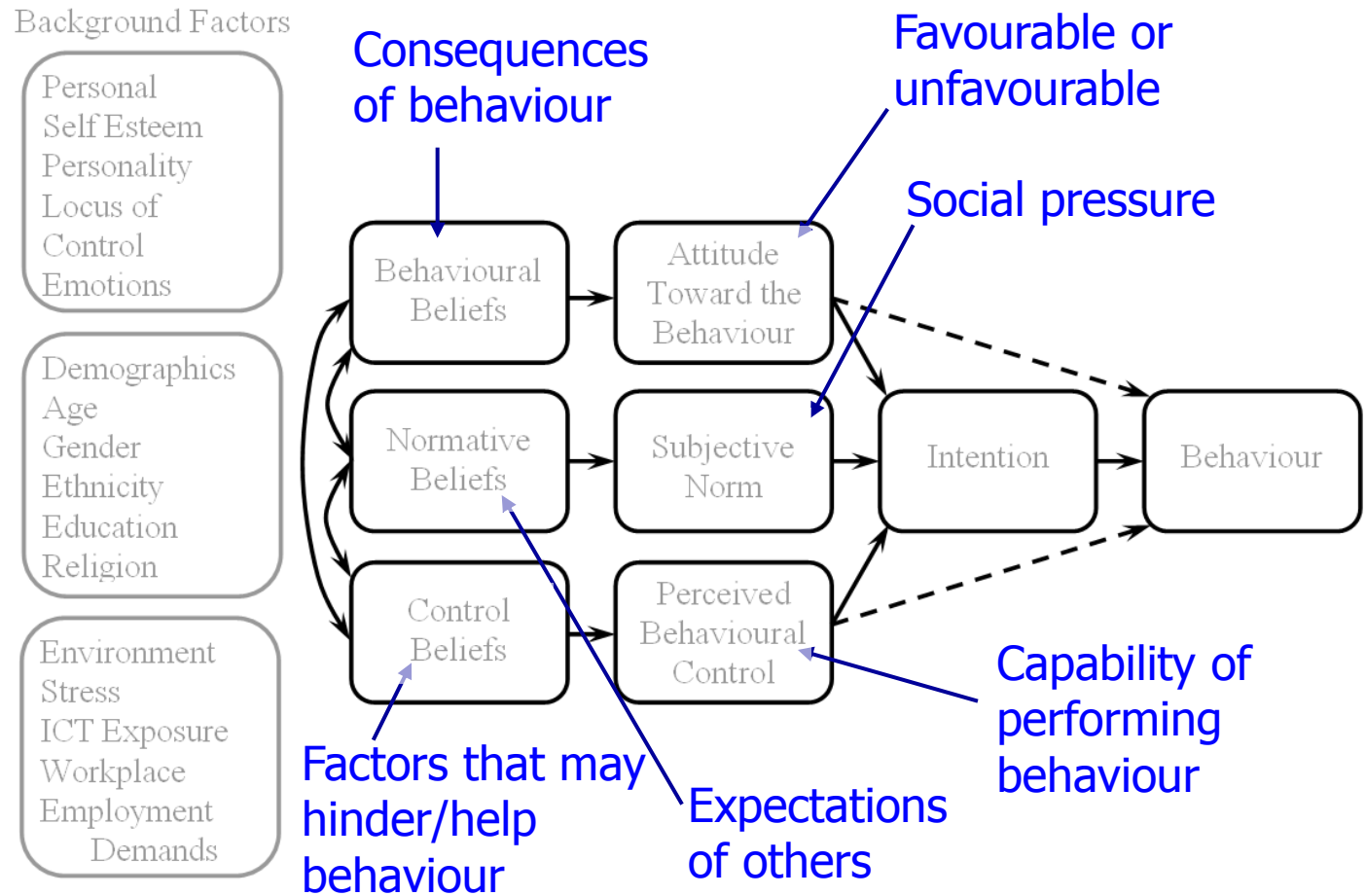Favourable attitudes towards ICT = more likely to use. Subjective norms influences = discourage/encourage ICT use. Control beliefs in ICT use = perceived ease of ICT use.

Conceptual Framework

Theory of Planned Behaviour (Hrubes, Ajzen, Daigle, 2001)

Background Factors

Personal
Self Esteem
Personality
Locus of Control
Emotions

Demographics
Age
Gender
Ethnicity
Education
Religion

Environment
Stress
ICT Exposure
Workplace
Employment
Demands

Consequences of behaviour

Favourable or unfavourable

Social pressure

Behavioural Beliefs

Attitude Toward the Behaviour

Normative Beliefs

Subjective Norm

Control Beliefs

Perceived Behavioural Control

Intention

Behaviour

Factors that may hinder/help behaviour

Expectations of others

Capability of performing behaviour

When applied to ICT engagement, the TPB suggests that intentions to engage with an ICT-based element is influenced by attitudes towards using ICT, perceived social pressure to do so and by perceptions of control over the interaction.

Methodology

40 item questionnaire. 7 items = Background;
9 items = Instructional effectiveness; 24 items = TPB.

Curtin Home > The Learning Centre > Online Programs

Questionnaire

Dear Student,
The Learning Centre at Curtin University is commited to improving the online **PowerPlus Writing Program**. To do this, we need you to tell us what you think about using resources such this and how the online **PowerPlus Writing Program** can be further developed to better suit your needs.

Confidentiality
Please be assured that all the information gathered from this questionnaire will be totally confidential. In agreeing to complete this questionnaire, the following conditions will apply.

1. The strictest confidentiality and anonymity shall be preserved.

Background Information

1. Name (optional): _____
2. Please indicate your age: (Please make a selection) ▼
3. Please indicate your gender: (Please make a selection) ▼
4. Which country do you currently reside in? _____

PowerPlus Writing Program

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
9. The content was relevant to my needs.	○	○	○	○	○
10. The content was pitched at an appropriate level.	○	○	○	○	○
11. The content was appropriately presented.	○	○	○	○	○
12. Engaging with this program has improved my academic writing skills	○	○	○	○	○

Behavioural Beliefs

17. Engaging with online learning programs make me feel a sense of competence

Extremely unlikely   ○   ○   ○   ○   ○   ○   ○   Extremely likely

18. Engaging with online learning programs make me feel angry

Extremely unlikely   ○   ○   ○   ○   ○   ○   ○   Extremely likely

Methodology (cont'd) – Quantitative

Respondents (n=52) = 87% females; 90% resided in Australia; 81% spoke English at home; 40% OUA enrolled; 37% between 15 – 29, 37% between 30 – 39, 15% between 40 – 49, 10% between 50 – 59, 2% over 60.

Items	Range of items means		Summary Statistics					
	Lowest item mean	Highest item mean	Mean	Mode	Median	S.D.	Kurtosis	Skewness
Content relevance	2.00	5.00	4.35	5.00	4.50	0.84	4.46	-1.78
Content at appropriate level	2.00	5.00	4.38	5.00	5.00	0.82	5.36	-1.94
Content appropriately presented	2.00	5.00	4.42	5.00	5.00	0.82	5.58	-2.03
Program improves writing skills	2.00	5.00	4.17	5.00	4.00	0.96	1.21	-1.18

Item	Statement	1	2	3	4	5	pol.	mean	s.d.	cor.
q9	The content was relevant to my needs	2%	2%	6%	40%	50%	+	4.35	0.83	0.91
q10	The content was pitched at an appropriate level	2%	2%	4%	40%	52%	+	4.38	0.81	0.85
q11	The content was appropriately presented	2%	2%	4%	37%	56%	+	4.42	0.82	0.83
q12	Engaging with this program has improved my writing skills	2%	4%	15%	33%	46%	+	4.17	0.96	0.85

(N=52.   1 = Strongly disagree; 5 = Strongly agree)

Methodology (cont'd) – Quantitative

Seven-point bipolar adjective scales (1 = extremely unlikely, 4 = uncertain or indifferent, 7 = extremely likely) were used to assess the participants' perceptions of the item statements presented in the questionnaire.

Scale	No. of items	Range of items means		Summary Statistics					
		Lowest item mean	Highest item mean	Mean	Mode	Median	S.D.	Kurtosis	Skewness
Theory of Planned Behaviour									
Behavioural Beliefs	5	4.00	7.00	5.75	5.80	5.80	0.84	-0.18	-0.44
Attitude Towards Behaviour	2	2.50	7.00	5.55	6.00	6.00	1.24	-0.41	-0.69
Normative Beliefs	2	1.00	7.00	3.86	4.00	4.00	1.79	-0.68	-0.31
Subjective Norms	2	1.00	7.00	4.56	4.00	5.00	1.78	-1.03	-0.63
Control Beliefs	2	2.00	7.00	5.10	4.00	5.00	1.50	-1.03	-0.19
Perceived Behavioural Control	2	3.00	7.00	5.71	6.00	6.00	1.04	-0.24	-0.63
Intentions	2	3.00	7.00	6.11	7.00	6.50	1.06	0.13	-1.03
Student n=52									

Behavioural Beliefs and Attitudes

Responses were very positive.

Highest score was item q18 (91% – the sum of 1, 2 and 3).

Lowest was for item q21 (60% – sum of 1, 2 and 3).

The majority of participants indicated that interacting with the programs was pleasant (85%) and helpful (76%).

Item	Statement	1	2	3	4	5	6	7	other	pol.	mean	s.d.	cor.
	Behavoural Beliefs												
q17	Engaging with online learning programs make me feel a sense of competence				13%	33%	27%	27%		+	5.67	1.01	0.45
q18	Engaging with online learning programs make me feel angry	60%	27%	4%	6%	2%	2%			-	6.31	1.12	0.63
q19	Engaging with online learning programs make me feel frustrated	42%	37%	4%	10%	6%			2%	-	5.98	1.20	0.65
q20	Engaging with online learning programs make me feel a sense of achievement		2%		10%	23%	35%	31%		+	5.81	1.09	0.27
q21	Engaging with online learning programs make me feel apprehensive	31%	23%	6%	13%	13%	8%	6%		-	4.98	1.94	0.15
	Attitudes												
q23	Interacting with the online PowerPlus Writing Program is extremely pleasant	2%		2%	10%	25%	37%	23%	2%	+	5.60	1.20	0.50
q24	Interacting with the online PowerPlus Writing Program is extremely helpful	4%	4%	4%	8%	10%	33%	33%	6%	+	5.50	1.62	0.50

(N=52.   1 = Extremely unlikely;   7 = Extremely likely;   other = null response)

Methodology (cont'd) – Quantitative

Normative Beliefs and Subjective Norms

27% (sum of 5, 6 and 7) were influenced by friends and/or family member.

61% were influenced by their teacher/lecturer/tutor.

67% indicated that relevant others believed that they should demonstrate effective writing skills.

37% believed that relevant others think that they should complete the online programs.

Item	Statement	1	2	3	4	5	6	7	other	pol.	mean	s.d.	cor.
	Normative Beliefs												
q26	My friends and/or family encourage me to use the online PowerPlus Writing Programs	38%	13%	6%	13%	13%	4%	10%	2%	+	3.02	2.06	0.35
q27	My teacher/lecturer/tutor encourage me to use the online PowerPlus Writing Programs	21%	2%	2%	10%	13%	19%	29%	4%	+	4.69	2.24	0.35
	Subjective Norms												
q29	People who are important to me believe that I should demonstrate effective writing skills	12%		4%	15%	15%	27%	25%	2%	+	5.06	1.85	- 0.64
q30	People who are important to me think that I should complete the online PowerPlus Writing Programs	19%	6%	8%	29%	10%	8%	19%	2%	+	4.06	2.04	0.64

(N=52. 1 = Extremely unlikely; 7 = Extremely likely; other = null response)

Methodology (cont'd) – Quantitative

Control Beliefs and Perceived Behavioural Control

86% believed that they had sufficient computing knowledge to engage in successful online learning.

42% believed it took effort to engage in online learning.

85% perceived that engaging with the online programs gave them a sense of being in control of their learning.

72% perceived that they could interact successfully with ICT in general at all levels.

Item	Statement	1	2	3	4	5	6	7	other	pol.	mean	s.d.	cor.
	Control Beliefs												
q32	How likely is it that you have sufficient computing knowledge to engage in successful online learning?		2%	4%	8%	23%	25%	38%		+	5.81	1.24	0.54
q33	How likely is it that it takes a great deal of effort for you to engage in online learning programs?	23%	19%	8%	6%	17%	15%	10%	2%	-	4.38	2.10	0.54
	Perceived Behavioural Control												
35	Engaging with the online PowerPlus Writing Programs gave me a sense of being in control of my learning		2%	2%	12%	10%	38%	37%		+	5.90	1.18	0.43
36	If I want to I can interact successfully with ICT in general at all levels		6%	19%	12%	33%	27%	4%		+	5.52	1.26	0.43

(N=52. 1 = Extremely unlikely; 7 = Extremely likely; other = null response)

Intentions

90% indicated that they intend to refer back to the online programs and intend to complete other similar programs.

Item	Statement	1	2	3	4	5	6	7	other	pol.	mean	s.d.	cor.
	Intentions												
38	In the future, I intend to refer back to the online PowerPlus Writing Programs I have completed	2%			6%	21%	21%	48%	2%	+	6.02	1.22	0.77
39	In the future, I intend to complete other similar online PowerPlus Writing Programs				8%	15%	21%	54%	2%	+	6.19	1.02	0.77

(N=52.   1 = Extremely unlikely;   7 = Extremely likely;   other = null response)

Summary

Instructional effectiveness and TPB were positive. However, nearly half were apprehensive towards online learning.

They were more influenced by instructors rather than by family or friends to use the online programs.

People important to them believed that they should demonstrate effective writing skills.

While the majority had control over their learning and had the computing knowledge needed to succeed, half indicated that it took effort to engage in the online programs.

Behavioural Beliefs and Attitudes

Adjectives to describe how they felt (n=40): positive included 'intelligent' (f=14), 'interested' (f=7), 'happy' (f=7), 'competent' (f=6), 'confident' (f=5), 'informed' (f=4); negative included 'frustrated' (f=1), 'stressed' (f=1).

How they felt when they started – how their attitudes changed as they progressed. 19 (n=38) began the feeling 'anxious', 'not sure of its benefits', 'it might be difficult', 'boring'…

… but as they progressed they felt that the programs were 'interesting', 'pleasant', 'useful', 'easy'.

16 indicated that they were consistently 'content', 'happy to learn', 'encouraged to learn more', 'open to new information' and found that the programs provided 'good practical application of the knowledge'.

2 felt 'great' at first, but later felt 'frustrated and 'overwhelmed with all the information given'.

Methodology (cont'd) – Qualitative

Normative Beliefs and Subjective Norms

Describe where a person/people important to them had encouraged them to complete the online programs:

7 (n=22) did not experience a significant other encouraging them; 10 were encouraged by their tutor through online discussion board, in class, or in their unit outlines; 3 were encouraged by friends through either an online discussion board or in class; 2 were encouraged by family members.

Describe when they felt a need to complete the online programs because that is what people significant to them would want them to do:

11 (n=20) needed to improve their writing skills and were not influenced by others; 5 had family members who wanted to see them improve their writing skills and they desired family members to be proud of them; 4 indicated that their lecturer or tutor wanted them to complete the online programs.

Methodology (cont'd) – Qualitative
Control Beliefs and Perceived Behavioural Control

Describe factors that may facilitate or impede their ability to engage in online learning programs:

10 (n=30) indicated factors that facilitate engagement in online learning – being computer literate and familiarity with online environments, good design to make it easy to follow;

22 (n=30) indicated factors that impede their ability to engage online – unfamiliarity with navigating online, slow computers, restricted computer access, balancing study/work/family commitments, disabilities with screen reading or hearing videos.

Describe feelings of control over interaction with the programs:

18 (n=21) were in control of their learning online, could work at their own pace and were excited with learning new skills.

Methodology (cont'd) – Qualitative

Intentions

Describe when they might refer back to the online programs, or seek further online assistance:

24 (n=31) would refer back when writing future essays, assignments or theses; 4 would refer back when they have more time or have access to the Internet; 2 intend to refer back for future proof-readings.

Summary

The majority indicated very positive attitudes.

Initially anxious, but became more comfortable.

Encouragement by significant others – need to be felt proud.

ICT literacy and good ID facilitated online learning.

Inadequate ICT facilities, balancing work/study/family, and hearing and visual disabilities impeded online engagement.

Many were in control of their online learning experiences.

Discussion

TPB asserts that people's attitudes towards a behaviour, subjective norms, and perceived behavioural control are likely to influence their intention to carry out that behaviour.

Behavioural beliefs and attitudes	Normative and subjective beliefs	Control beliefs and perceived behavioural control	Intentions
Many respondents indicated that they felt apprehensive and anxious before starting the online programs, but their attitudes became more positive as they progressed when they realised that the programs were intuitive, interesting and useful to them. However, a small number remained feeling frustrated and overwhelmed with the information presented	A large number of the respondents were influenced by their significant others which included their lecturer/tutor and, to a lesser extent, their peers and family members; many of whom indicated that they would like to see them improve their writing skills. Some respondents wanted their significant others to be proud of their successful academic achievement.	The majority of the respondents believed that they had control over their online learning which was facilitated by adequate computing literacy and appropriately designed online learning environments. Nearly all respondents agreed that the content was relevant, suited to their level of learning, appropriately presented and led to improved writing skills. Impediments to their online learning included inadequate computing access and facilities, balancing work, study and family commitments, and challenges with hearing and seeing particular elements within the online programs.	The vast majority of the respondents indicated that they would refer back to the online programs in the future when needing further help with their academic writing activities during their academic studies and professional careers. The majority also indicated that they would seek out other similar online programs as needed.

Conclusion

While the online PowerPlus Writing Programs have been beneficial to students, there is a need to further examine ways in which students' anxieties towards getting started and engaging with such online programs may be eased.

Factors that impede online learning and cause feelings of frustration and overwhelmed need to be further explored in the ongoing development and revision of these resources.

The TPB provided a useful framework which highlighted certain conditions in which students are likely to work through voluntary online resources.

More data will be collect regarding factors that influence students engagement with online programs more willingly.

Information collected through ongoing investigations into predicting circumstances in which students will engage with voluntary online programs will have benefits for the development and delivery of other online learning programs.

Thank you

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