

APPENDICES

APPENDIX I**Outline Questions on group interview****1. Questions asking about teaching-learning approach and process**

- What is the main teaching-learning technique that teacher used in the class
- How do you think this teaching-learning approach
- Is the teaching approach in the class mostly can encourage you on thinking critically
- Are teacher often asking questions and opening for everybody to share idea or opinion
- Do you have a chance to asking questions
- Do you have an opportunity to share idea or give your own opinion in the class

2. Questions asking about learning style

- While you are studying in the class what are the main methods that you were used to study; lecture, listen, memorizing, asking questions, share idea etc.
- Did you ever asking any questions or share your opinion in the class?
- After class end, did you ever go to library or other source of information to support theories that teacher just present, to find any new knowledge or may be teacher give you a wrong information, did you ever think about that?
- Did you ever sleeping in the class
- Did you ever asking questions?

Questions Outline: In-depth interview teachers

- Are they curious? Are they asking questions? Are they active to learn or to work?
- What are the most popular technique teacher using in the class?
- Are you ever applied teaching critical thinking?
- Did teacher ever be train about teaching critical thinking?

APPENDIX IIQuestionnaire Number **Questionnaire about factors to promote critical thinking of students****Explanatory**

This questionnaire is to explore the factors to promote critical thinking of student using Watson & Glaser Conceptual Framework. Your opinion will be useful for development of the teaching-learning and to improve the teaching – learning environment that can promote critical thinking of students. This questionnaire will be composed of 2 parts;

1) Structure questionnaire : 2 parts**Part I. Questionnaire about Personal data.****Part II. Questionnaire on the teaching-learning that can promote critical thinking.****2) Measuring of critical thinking skills.****Please cooperate to answering the questionnaire.**

Part I Questionnaire on personal data

Explaining Please give data or information on your by put ✓ into or put in to the given box.

1. sex Male Female

2. Age.....year's old.

3. Studying class

1st year 2nd year

3rd year 4th year

4. G.P.A.....

Part II Questionnaire on the condition of Teaching-learning that can promote critical thinking.

Explaining Please read the message and put ✓ into given box please answer from your opinion.

Questionnaire	Very good	good	Moderate	low	lowest
1. Learning behavior					
1.1 When the problem occur about work, I believe that the actively to investigation data from many resources to use for solving problem is the way should do.					
1.2 When it has the problem or obstacle occur, I believe, I can solve that problem or obstacle.					
1.3 I never scare to make a mistake or failure if that decision based on good reasons.					
1.4 I think, I can analyze the issue that I listen and I can arguing with strong reasoning and believable reason					
1.5 I feel proud when I use knowledge and skill to work until successful.					
1.6 When teacher gave assignment to me to searching, I feel actively to complete them before time off.					
1.7 When I feel doubtful in any issue I like to discover that answer.					
1.8 When I work mistake, I feel too bad if not tell to my co-workers.					
1.9 When there are problem in practice work, I like if my co-worker share their opinion about that occuring problem,					
1.10 While study, I always have inquiry to ask.					
1.11 In the arguing on academic, if my friends have better reasons, I will accept that opinion.					
1.12 I will talk or show action to others strait to my feeling even others will not like it.					
1.13 I like to share my opinion in any issue with my friends and my teacher.					

Questionnaire	Very good	good	Moderate	low	lowest
1.14 I am always ready to analyze the situation in deeply to discovering the way to improving in order to bring to the right decision making.					
1.15 I am curiosity to learn new knowledge that can bring to my work development.					
1.16 I have mostly concentration and making correct decision when meet the emergency situation.					
1.17 I feel myself is the one who always interesting to discovering more knowledge.					
1.18 I feel admire people who are other one admire that is the one who is the knowlegeable and I want to be the same.					
2. Teaching Method					
2.1 In the teaching learning, students have no chance to choose the activities that student's interesting and want to know.					
2.2 Teaching method, teachers mostly are lecture all teaching hours.					
2.3 Teaching-learning strategies mostly have the exciting questions that can encourage to know and to see and make student interesting.					
2.4 Teacher will always listen and do following the student suggestion to improve new thing.					
3. Teachers					
3.1 Teacher actively to teach					
3.2 Teacher encourage student to do or to test the right or wrong in practice many activities in that limitation.					
3.3 Teacher give important to the difference of each student both in the abilities and the readiness.					
3.4 Teachers suggest where to searching in the varied of knowledge					
3.5 Teachers give chance to student to offering concept or another view of thought.					
3.6 Teacher are mostly friendly and causally to students.					
3.7 Teacher give stimulating when student give right answer and give usefulness suggestion.					
3.8 Teacher accept the student's opinion.					

Questionnaire	Very good	good	Moderate	low	lowest
3.9 Teacher always not satisfy if student cannot answer.					
3.10 Teacher practicing their student to analysis the problem of issue when it's free study					
3.11 Teachers prepare the situation or the place in practice to support and promote learning.					
3.12 Teacher not much open chance to student asking question.					
3.13 Teacher encourage student to fully discuss the problems issue arguing with reasoning.					
3.14 Teacher are mostly judge the answering of student as soon as they finish answer by not discussion.					
3.15 Students always were blame when do the activities that never done before.					
3.16 Teacher encourage student to think on different model while discussion.					
4. Curriculum					
4.1 Contents of subject in curriculum are news, and related to the need of social.					
4.2 Instruction arranging following the curriculum promote student to have the skill on analysis.					
4.3 Instruction arranging in the curriculum promote student to have to skill on analysis thinking.					
4.4 Arranging hours for self-study are enough.					
4.5 Schedule arrange to study practicing is appropriately.					
4.6 Schedule arrange to study on Theory is appropriately.					
4.7 The measurement & evaluation of Theory is appropriately.					
4.8 The measurement & evaluation of Practice is appropriately.					
5. Teaching environment					
* friends					
5.1 Have a good relationship between students in class.					
5.2 Having suggestion and helping each others between friends on the learning.					
5.3 Group of friend giving me new knowledge and new experience in many issue.					
5.4 Friends can stimulate and give me good feeling on learning.					
5.5 I mostly using free time to be in the groups in order to share knowledge and study or discovering move.					

Questionnaire	Very good	good	Moderate	low	lowest
5.6 Have cooperative between friends to do the activities in college.					
* Library					
5.7 library have an appropriate atmosphere to searching knowledge.					
5.8 The sitting place for reading in library are enough.					
5.9 There are newly Book, Textbook, Journal in the library.					
5.10 In the library, There are enough book, Textbook and worldwide journal to searching.					
5.11 In the library, there are enough book, Textbook and Thai journal to searching,					
5.12 Good service and abreast of the time.					
* Classroom & laboratory room					
5.13 Appropriate size of classroom to amount of students.					
5.14 Arranging table, chair in the class appropriate to teaching-learning and to do the activity in the class.					
5.15 Appropriate light in the class.					
5.16 Air ventilation, temperature in the class appropriately.					
5.17 While studying inside classroom, there will no interrupted from outside sound,					
5.18 In the class, there are appropriate technology and abreast of the time that can use in teaching-learning.					
5.19 There are enough necessary equipment for students in the laboratory room.					
5.20 There are the equipment and teaching media enough and abreast of the time in the laboratory room.					
* Others facilities					
5.21 College has service of effective and enough of education technology.					
5.22 College promote the comfortable in the services on high technology; computers, internet, etc.					

APPENDIX IIIQuestionnaire Number **Questionnaire about factors to promote critical thinking of students****Explanatory**

This questionnaire is to explore the factors to promote critical thinking of student using Watson & Glaser Conceptual Framework. Your opinion will be useful for development of the teaching-learning and to improve the teaching – learning environment that can promote critical thinking of students. This questionnaire will be composed of 3 parts;

1) Structure questionnaire: 2 parts:

Part I. Questionnaire about Personal data.

Part II. Questionnaire on the teaching-learning that can promote critical thinking.

2) Measuring of critical thinking skills.

Please cooperate to answering this questionnaire.

Part I Questionnaire on personal data

Explaining Please give data or information on your by put ✓ into or put in to the given box.

1. sex Male Female

2. Age.....year's old.

3. Studying class

1st year 2nd year

3rd year 4th year

4. G.P.A.....

Part II Questionnaire on the condition of Teaching-learning that can promote critical thinking.

Explaining Please read the message and put ✓ into given box from your opinion.

Questionnaire	Very good	good	moderate	low	lowest	\bar{X}	SD
1. Learning behavior	62	66	9	0	0	4.39	0.61
1.1 When the problem occur about work, I believe that the actively to investigation data from many resources to use for solving problem is the way should do.	45.3%	48.2%	6.6%				
1.2 When it has the problem or obstacle occur, I believe, I can solve that problem or obstacle.	12 8.8%	70 51.1%	55 40.1%	0	0	3.68	0.63
1.3 I never scare to make a mistake or failure if that decision based on good reasons.	20 14.6%	53 38.7%	56 40.9%	6 4.4%	2 1.5%	3.61	0.84
1.4 I think, I can analyze the issue that I listen and I can arguing with strong reasoning and believable reason	7 5.1%	57 41.6%	71 51.8%	2 1.5%	0	3.51	0.62
1.5 I feel proud when I use knowledge and skill to work until successful.	76 55.5%	55 40.1%	6 4.4%	0	0	4.51	0.58
1.6 When teacher gave assignment to me to searching, I feel actively to complete them before time off.	7 5.1%	65 47.4%	59 43.1%	5 3.6%	1 0.7%	3.53	0.69
1.7 When I feel doubtful in any issue I like to discover that answer.	17 12.4%	69 50.4%	45 32.8%	6 4.4%	0	3.72	0.74
1.8 When I work mistake, I feel too bad if not tell to my co-workers.	38 27.7%	64 46.7%	30 21.9%	5 3.6%	0	3.98	0.80
1.9 When there are problem in practice work, I like if my co-worker share their opinion about that occuring problem,	36 26.3%	70 51.1%	28 20.4%	3 2.2%	0	4.02	0.74
1.10 While study, I always have inquiry to ask.	4 2.9%	16 11.7%	75 54.7%	40 29.2%	2 1.5%	2.85	0.75
1.11 In the arguing on academic, if my friends have better reasons, I will accept that opinion.	52 41.6%	70 51.1%	9 6.6%	1 0.7%	0	4.33	0.63

Questionnaire	Very good	good	moderate	low	lowest	\bar{X}	SD
1.12 I will talk or show action to others strait to my feeling even others will not like it.	15 10.9%	47 34.3%	54 39.4%	20 14.6%	1 0.7%	3.4	0.89
1.13 I like to share my opinion in any issue with my friends and my teacher.	8 5.8%	56 40.9%	68 49.6%	3 2.2%	2 1.5%	3.47	0.71
1.14 I am always ready to analyze the situation in deeply to discovering the way to improving in order to bring to the right decision making.	15 10.9%	70 51.1%	50 36.5%	2 1.5%	0	3.72	0.67
1.15 I am curiosity to learn new knowledge that can bring to my work development.	17 19.4%	69 50.4%	49 35.8%	2 1.5%	0	3.74	0.69
1.16 I have mostly concentration and making correct decision when meet the emergency situation.	3 2.2%	49 35.8%	79 57.7%	6 4.4%	0	3.36	0.60
1.17 I feel myself is the one who always interesting to discovering more knowledge.	6 4.4%	40 29.2%	75 54.7%	16 11.7%	0	3.26	0.72
1.18 I feel admire people who are other one admire that is the one who is the knowlegeable and I want to be the same.	46 33.6%	65 47.4%	20 14.6%	6 4.4%	0	4.10	0.81
2. Teaching Method	7	27	78	24	1	3.11	0.77
2.1 In the teaching learning, students have no chance to choose the activities that student's interesting and want to know.	5.1%	19.7%	56.9%	17.5%	0.7%		
2.2 Teaching method, teachers mostly are lecture all teaching hours.	8 5.8%	42 30.7%	73 53.3%	12 8.8%	2 1.5%	3.31	0.77
2.3 Teaching-learning strategies mostly have the exciting questions that can encourage to know and to see and make student interesting.	11 8%	45 32.8%	51 37.2%	27 19.7%	3 2.2%	3.25	0.94
2.4 Teacher will always listen and do following the student suggestion to improve new thing.	12 8.8%	57 41.6%	50 36.5%	13 9.5%	5 3.6%		
3. Teachers	20	69	42	4	2	3.74	0.80
3.1 Teacher actively to teach	14.6%	50.4%	30.7%	2.9%	1.5%		
3.2 Teacher encourage student to do or to test the right or wrong in practice many activities in that limitation.	13 9.5%	62 45.3%	50 36.5%	11 8%	1 7%	3.55	0.80
3.3 Teacher give important to the difference of each student both in the abilities and the readiness.	9 6.6%	46 33.6%	63 46%	15 10.9%	4 2.9%	3.30	0.87

Questionnaire	Very good	good	moderate	low	lowest	\bar{X}	SD
3.4 Teachers suggest where to searching in the varied of knowledge	19 13.9%	54 39.4%	46 33.6%	14 10.2%	4 2.9%	3.51	0.96
3.5 Teachers give chance to student to offering concept or another view of thought.	22 16.1%	57 41.6%	50 36.5%	6 4.4%	2 1.5%	3.66	0.85
3.6 Teacher are mostly friendly and causally to students.	33 24.1%	66 48.2%	29 4.2%	8 5.8%	1 0.7%	3.89	0.86
3.7 Teacher give stimulating when student give right answer and give usefulness suggestion.	18 13.1%	78 56.9%	38 27.7%	2 1.5%	1 0.7%	3.8	0.79
3.8 Teacher accept the student's opinion.	14 10.2%	52 38%	60 43.8%	10 7.3%	1 0.7%	3.5	0.81
3.9 Teacher always not satisfy if student cannot answer.	10 7.3%	57 41.6%	48 35%	22 16.1%	0	3.78	0.68
3.10 Teacher practicing their student to analysis the problem of issue when it's free study	16 11.7%	79 57.7%	38 27.7%	4 2.9%	0	3.78	0.68
3.11 Teachers prepare the situation or the place in practice to support and promote learning.	10 7.3%	72 52.6%	47 34.3%	8 5.8%	0	3.61	0.71
3.12 Teacher not much open chance to student asking question.	2 1.5%	12 8.8%	33 24.1%	61 44.5%	29 21.2%	2.24	0.94
3.13 Teacher encourage student to fully discuss the problems issue arguing with reasoning.	19 13.9%	68 49.6%	39 28.5%	11 8%	0	3.69	0.81
3.14 Teacher are mostly judge the answering of student as soon as they finish answer by not discussion.	1 0.7%	13 7.3%	45 32.8%	60 43.8%	21 15.3%	2.55	0.84
3.15 Students always were blame when do the activities that never done before.	1 0.7%	13 9.5%	62 45.3%	46 33.6%	15 10.9%	2.55	0.84
3.16 Teacher encourage student to think on different model while discussion.	21 15.3%	69 50.4%	42 30.7%	5 3.6%	0	3.77	0.75
4. Curriculum	17	70	39	7	4	3.65	0.87
4.1 Contents of subject in curriculum are abreast of time, and related to the need of social.	12.4%	51.1%	28.5%	5.1%	2.9%		
4.2 Instruction arranging following the curriculum promote student to have the skill son analysis.	18 13.1%	69 50.4%	46 33.6%	4 2.9%	0	3.74	0.72
4.3 Instruction arranging in the curriculum promote student to have to skill on analysis thinking.	13 9.5%	68 49.6%	51 37.2%	4 2.9%	1 0.7%	3.64	0.72

Questionnaire	Very good	good	moderate	low	lowest	\bar{X}	SD
4.4 Arranging hours for self-study are enough.	3 2.2%	27 19.7%	49 35.8%	38 27.7%	20 14.6%	2.67	1.02
4.5 Schedule arrange to study practicing is appropriately.	4 2.9%	36 26.3%	58 42.3%	33 24.1%	6 4.4%	2.99	0.90
4.6 Schedule arrange to study on Theory is appropriately.	3 2.2%	33 24.1%	53 38.7%	40 29.2%	8 5.8%	2.88	0.92
4.7 The measurement & evaluation of Theory is appropriately.	1 0.7%	35 25.5%	67 48.9%	25 18.2%	9 6.6%	2.96	0.86
4.8 The measurement & evaluation of Practice is appropriately.	5 3.6%	35 25.5%	70 51.1%	23 26.8%	4 2.9%	3.10	0.83
5. Teaching environment * friends	49 35.8%	65 47.4%	20% 14.6	1 0.7%	2 1.5%	4.15	0.80
5.1 Have a good relationship between students in class.							
5.2 Having suggestion and helping each others between friends on the learning.	31 22.6%	69 50.4%	29 21.2%	5 3.6%	3 2.2%	3.88	0.88
5.3 Group of friend giving me new knowledge and new experience in many issue.	27 19.7%	65 47.4%	35 25.5%	10 7.3%	0	3.8	0.84
5.4 Friends can stimulate and give me good feeling on learning.	18 13.1%	78 56.9%	34 24.8%	7 5.1%	0	3.78	0.73
5.5 I mostly using freetime to be in the groups in order to share knowledge and study or discovering move.	5 3.6%	36 26.3%	71 51.8%	22 16.1%	3 2.2%	3.13	0.81
5.6 Have cooperative between friends to do the activities in college.	13 9.5%	72 52.6%	38 27.7%	12 8.8%	2 1.5%	3.60	0.84
* Library	17	67	40	9	4	3.62	0.89
5.7 library have an appropriate atmosphere to searching knowledge.	12.4%	48.9%	29.2%	6.6%	2.9%		
5.8 The sitting place for reading in library are enough.	24 17.5%	56 40.9%	41 29.9%	10 7.3%	6 4.4%	3.60	1.01
5.9 There are newly Book, Textbook, Journal in the library.	7 5.1%	30 21.9%	62 45.3%	28 20.4%	10 7.3%	2.97	0.97
5.10 In the library, There are enough book, Textbook and worldwide journal to searching.	8 5.8%	46 33.6%	59 43.1%	23 16.8%	1 0.7%	3.27	0.84

Questionnaire	Very good	good	moderate	low	lowest	\bar{X}	SD
5.11 In the library, there are enough book, Textbook and Thai journal to searching,	3 2.2%	43 31.4%	50 31.5%	33 24.1%	8 5.8%	3.00	0.94
5.12 Good service and abreast of the time.	2 1.5%	31 22.6%	59 43.1%	27 19.7%	18 13.1%	2.79	0.99
* Classroom & laboratory room	27 19.7%	73 52.6%	32 23.4%	4 2.9%	1 0.7%	3.88	0.78
5.13 Appropriate size of classroom to amount of students.							
5.14 Arranging table, chair in the class appropriate to teaching-learning and to do the activity in the class.	19 13.9%	67 48.9%	40 29.2%	10 7.3%	1 0.7%	3.68	0.83
5.15 Appropriate light in the class.	16 11.7%	68 49.6%	37 27%	10 7.3%	5 3.6%	3.59	0.92
5.16 Air ventilation, temperature in the class appropriately.	26 19%	77 56.2%	28 20.4%	6 4.4%	0	3.9	0.75
5.17 While studying inside classroom, there will no interrupt from outside sound,	7 5.1%	46 33.6%	49 35.8%	26 19%	9 6.6%	3.12	0.99
5.1+8 In the class, there are appropriate technology and abreast of the time that can use in teaching-learning.	26 19%	52 38%	40 29.2%	12 8.8%	7 5.1%	3.57	1.06
5.19 There are enough necessary equipment for students in the laboratory room.	6 4.4%	34 24.8%	52 38%	33 24.1%	12 8.8%	2.92	1.01
5.20 There are the equipment and teaching media enough and abreast of the time in the laboratory room.	6 4.4%	39 28.5%	57 41.6%	22 16.1%	13 9.5%	3.02	1.01
* Others facilities	4 2.9%	36 26.3%	62 45.3%	29 21.2%	6 4.4%	3.02	0.88
5.21 College has service of effective and enough of education technology.							
5.22 College promote the comfortable in the services on high technology; computers, internet, etc.	9 6.6%	42 30.7%	46 33.6%	33 24.1%	7 5.1%	3.09	1.01

CURRICULUM VITAE

NAME: JARUWAN ABELLA

EDUCATION:

1998-2001 Master of Public Health (Health Systems Development)

Chulalongkorn University

1988-1992 Diploma of Nursing (Equal to Bachelor Degree)

EMPLOYMENT:

2000 - Present Sirinthorn College of Public Health, Ministry of Public Health

1997 - 1998 Health Care Reform, Ministry of Public Health

1992 - 2000 Uttaradit Nursing College, Ministry of Public Health

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