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2007/2/13 : 2006/1/3 :

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(150) () :

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(0 ,05 = α) .2

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(0 ,01 = α) .3

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(65) . - : *

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**The Distribution of Al – Quds Open University Students on
Abstract – Concrete Thinking Type and Its Relationship with
Academic Achievement and Creative Thinking among**

Abstract: This study aimed to recognize the nature of distribution of university students on abstract – concrete thinking type, and its relationship with academic achievement and creative thinking. To achieve this aim (150) students (75 male, 75 female) from the faculty of education at Al – Quds Open University were chosen randomly. The researcher had been applied three apparatus: The Similarities Sub – Test(SSWB) to measure the abstract – concrete type thinking, Mednik Remote Association Task (RAT)to measure the creativity thinking, and general accumulative average to measure the academic achievement. Results indicated that:

1. The normative scores of university students male and female several and gathered on abstract – concrete thinking type were nearby normal distribution.
2. There were statistically significant differences in university students general academic achievement scores, due to level of abstract – concrete type thinking in favor of high abstract students group.
3. There were statistically significant differences in university students level on creativity thinking, due to level of abstract – concrete type thinking in favor of high abstract students group.

Finally, in light of the study results and discussions the researcher suggested some recommendations.

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(2004)

(Quality Thinking)
(Quantity Thinking)

(Burden & Williams, 1998 Boyer,1988)

(2004)

(Roger & Fledman,1989)

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: (Kasanin, 1993)
(Physiognomic Thinking) :

(Animistic Thinking) (Piaget)
(Centric Thinking)
(Concrete Thinking) :

(Abstract Thinking) :
(Concepts)
(Hypothetical) (Practical)

(Stagner)

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(Logica Abstraction)
(Perceptual Abstraction)

.(Slavin, 1996)

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(:) .1

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.1

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(Paul,2002)

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(GRE)	.2
(TOFEL)	.3
	.4
(Teachable and Learnable)	.5

(Lembo,1999)

:
 (Practical) (Experimental) (Theoretical)
 .(Adams , 1989)

(NAEYC)

.(Costa,1981)

.(Brandt, 1987)

(Payne, 1991)

(Classification)

(Grouping)

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(Goldstein)

Thurston Allport)

(Spearman

.(Blagg,1993 Boyer,1988, Costa,1981)

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: .1

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(Ego)

(Self)

(Piaget)

(Schemata)

(Disequilibrium)

:

:(CognitiveAssimilation) .1

(Adaptation)

:(CognitiveAccommodation) .2

(Cognitive Structure)

Woolfolk,1990,Slavin,1996)

.(Cemal, 2003,Huitt & Hummel, 2003

(Compensation)

(Stabilization)

.(Dynamics)

Huitt & Hummel, 2003)

: (Cemal, 2003

:(Sensor motor Stage) .1

:(Pre – Operational Stage) .2

(Egocentric)

	.
:(Concrete Operational Stage)	.3
	:
	.1
(Classification)	.2
	.3
.(Decentration)	.4
	.5
.(Reversibility)	.6
	.7
.(Conservation)	.7
(Class Inclusion)	.8
(Transformational Grammar)	.8
	:
:(Abstract Operational Stage)	.4
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(Payne, 1991)

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(20004 Lipman,1996 Lefrancois,1988)

: (Facione, 2002 Dasen, 1979)

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(Creativity Thinking)

(Mednic)

(Roger & Fledman, 1989)

: (Guilford)

(1989)

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(Analysis) (Application) :
(Inference) (Evaluation) (Synthesis)
(Dacey,2001)

(Convergent Thinking)

(Divergent Thinking)
(Facione, 2002)

(Inquisitiveness) :
(Systematic) (Open-mindedness)
(Seeking-Truth) (Cognitive Maturity)
(Self Confident)
(2004)

:

(Predictivity) (Academic Achievement)

(Gestalt Theory)

(Joyce,1988)

)

.(1997

(Whimbey,1985)

(Costa,1981)

(Joyce, 1988)

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:(Teaching for Thinking) .1

:(Teaching of Thinking) .2

:(Teaching About Thinking) .3

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(Meta Cognition)

(Brain Functioning)

.(Epistemic Cognition)

(Thinking)

(Thought)

(Tan,1990)

(Continuum)

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:

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:

(Ellkind,1971)

(%33) (%29)

(Schwebel,1975)

.(% 67) (% 58)

(1976)

(1978)

(Formal Operations)

(Dasen,1979)

(Walker,1979)

(86)

(Synthesitic)

:

(Inference)

(Assumption)

(%72)

(%91)

(Tan, 1990)

(1991)

(250)

(1995)

(%6)

(% 7)

(% 32)

(%17)

(% 44)

(Aggleton & Wood,1996)

(% 64) (%54)

(2001)

: (3284)

(%40)

(%46)

(%13)

(%15)

(%50)

(% 2 .6)

(% 43 .5)

(%12)

(%38)

(% 6 .5)

(Huitt & Hummel, 2003)

(%30 %27)

(2468)

(%26 %17)

(% 35 %31)

(2004)

(222)

(%12 .6)

(% 17 .7)

(% 13 .5)
(% 25 .7) (% 25 .7)

: (Lehman, 1989) :

(1991)

(250)

(Alvis &Others,1999)

(70) (127)

: (Harvey &Others,1976) :

(Dellas,1982)

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(Gray & Youngs, 1991)

(258)

(1997)

() ()

()

(Crow, 1998)

(178)

(75)

(75)

(150)

: :

2004 / 2003

(43 19) ()
 . (3 .5) (27 .5)
 :

:(The Similarities Sub – Test of W. B) .1

(1977)

(Cemal, 2003)

:(Concrete Thinking) .1

:(Functional Thinking) .2

:(Abstracts or Formal Thinking) .3

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.(1977)

.(1977)

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(24)

(12)

:

()

(1977)

Split –)

(34)

(Half Reliability

(0 .736)

(34 =)

(Construct Validity)

(**Mednik Remote Association Test**)

.2

(Mednik,1971)

"

"

(Serendipity)

:

.(Mednik, 1971) (Mediation)

(Similarity)

:

.1

.2

.3

.(Mednik, 1971)

:

(Test-Retest Reliability)

(0 .744)

(34 =)

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.3

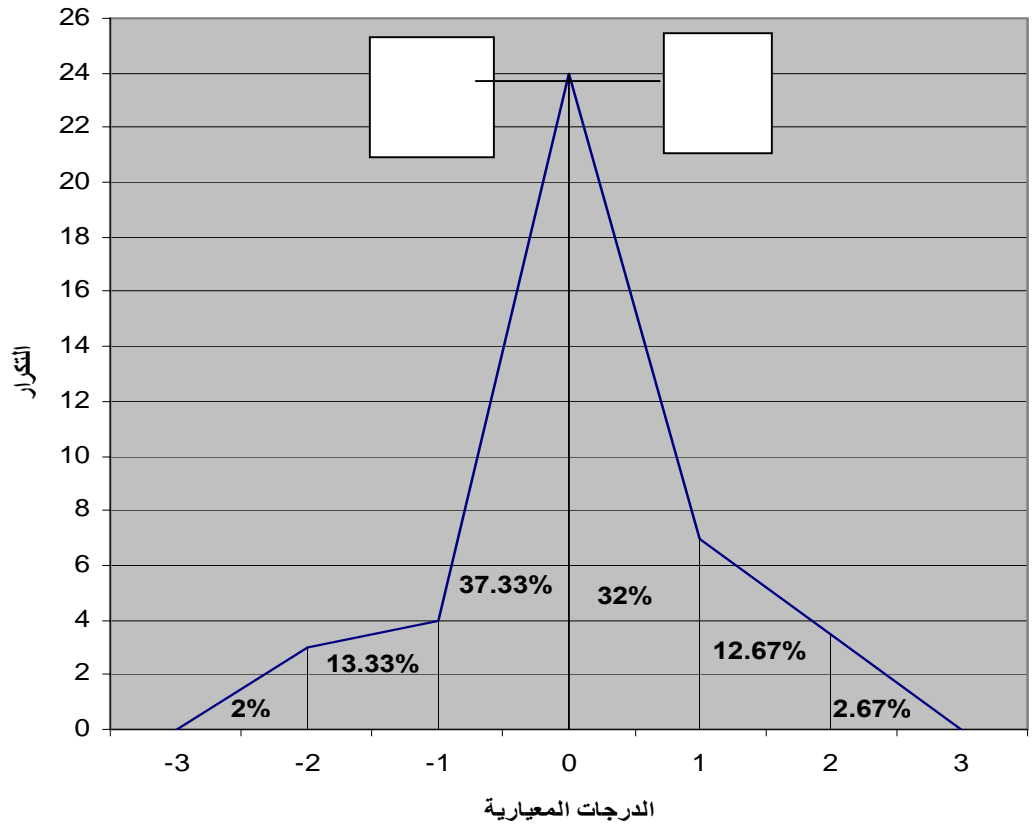
:

:

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.2
 (SPSS)
 .3
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 (3 1
 .()
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 (T-test)
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 :
 () :
 (3 .16 = 13 .24 =) -
 (3) (1)
 :

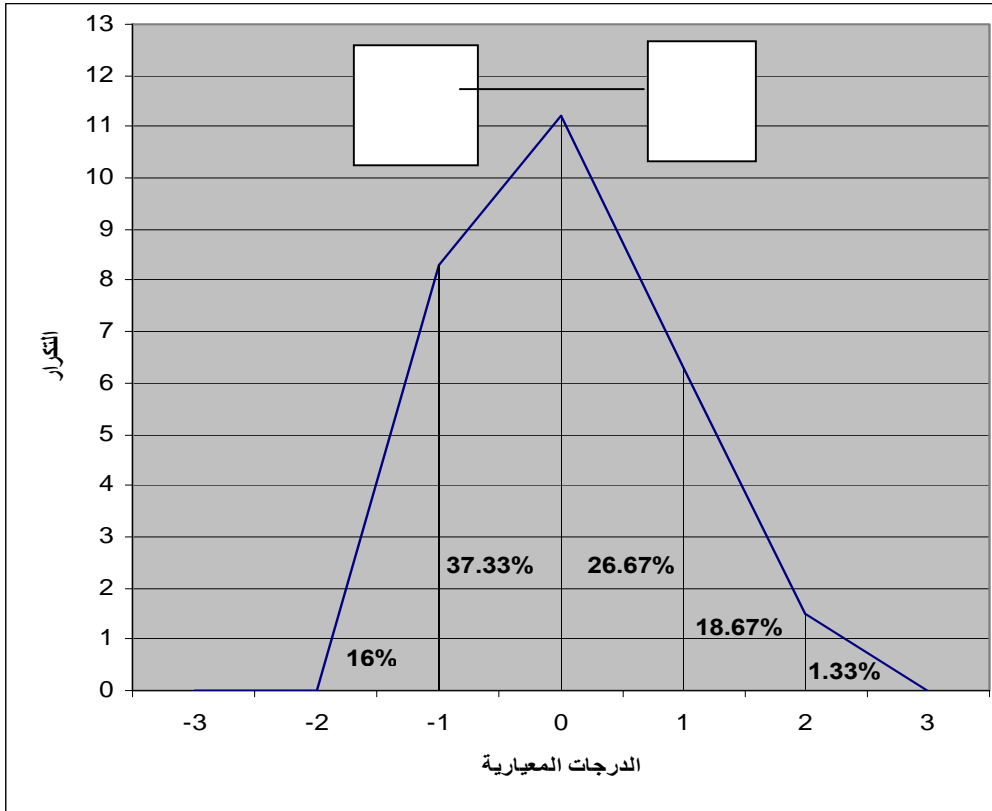


(1)

(% 69 .33)

(% 95 .33)

(3 .45 = 13 .51 =)
 : (2)

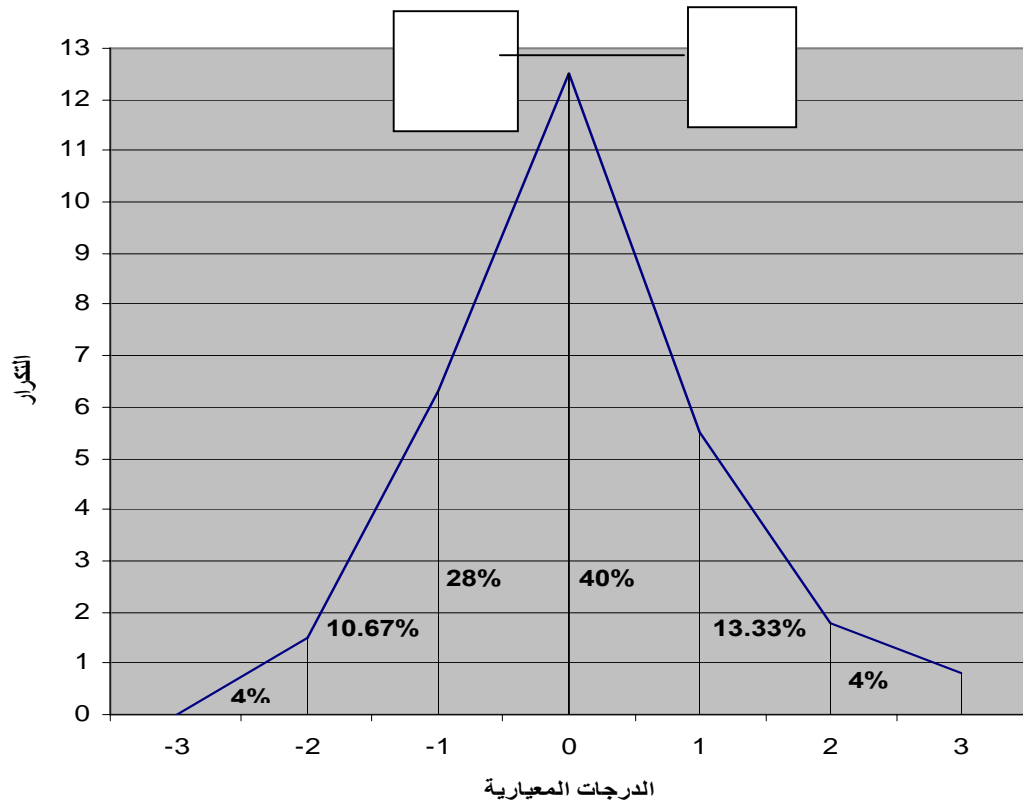


(2)

(%64)

(%98 .76)

(2.83 = 12.97 =)
: (3)



(3)

(%68)

(%92)

(3 2)

: (1)

(1)

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	" "				
0 .303	1 .035	3 .45	13 .51	75	
		3 .83	12 .97	75	

Blagg, 1993 Bayer, 1988 Costa, 1981 1977)
(Young, 2003 Huitt & Hummel, 2003
(Thurston) (Spearman)
(Goldshtein) (Anggal) (Richter) (Allport)
(Perkins, 2004 Woolfolk, 1990 1977)

Wood, 1995 1991 1991 Walker, 1979 Dasen, 1979)
 (2004 2001 Aggleton & 1996

(Ellkind, 1971)

(1978 1976 Schwebel, 1975)

(Tan, 1990 Dellas, 1982)

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: (2) (t-test)

(2)

" "

(150 =)

	" "				
* 0 .006	2 .81	8 .21	72 .61	61	
		7 .11	68 .99	89	

0 .05 = α

*

(0 .05 = α)

(1991 1991)

(Alvis & Others, 1999 Crow, 1998)

(Lehman, 1989)

(Joyce,1988)

(Young, 2003)

(Whimby,1985)

:

(3)

" "

(150 =)

	" "				
* 0 .000	3 .745	5 .12	11 .77	61	
		4 .10	8 .94	89	

0 .01 = α

*

(0 .01 = α)

Gray & Youngs,1991 Harvey,1976)

(Crow,1998

(1997)

(Bejat)

(Georgescu,1988)

(1989)

(Fluid Intelligence)

(Crystallized Intelligence)

"

.(Perkins, 2004) "

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(2004)

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<http://www.qattanfoundation.org/arabic/reseach/rua7/edupatens>:(

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(1995)

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" (1997)

.4

79 - 50 :(41 - 40) 11

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	(2004)		.6
	:()		
	http://www.quttanfoundation.org/arabic/research/rua7/thought	.a	
	" (2001)		.7
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	228 – 81: 6.		.8
:	(1989) ()		.9
			.10
."	" (1991)		.11
	44 – 22:(48) 6 .a		
:	(1991)		.12
(565-541)			.13
:	2 . . : (1978)		.14
	(2004)		.15
	http://www.ust.edu/journal/jss/jss-ar.php :()		.16
	(2004)		.17
	http://www.annabaa.org/nba38/molahazat :() .a		
:	1 . . (1977)		.18
."	" (1976)		.19
	62-43:82.		

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1. Adams, M (1989) "Thinking skills curricula". *Psychologist*, No. 24: 47-58
 2. Aggleton, J & Wood, C (1996) "Cognitive performance among male and female".
 3. *Intelligence*, 14 (1): 147-188
 4. Alvis, G & Others (1999) "Inverse patterns in successful acquisition performance by
 5. Males and females related with thinking style". *Bulletin of Psychonomic Soc-*
 6. *icity*, 68 (4): 256-277
 7. Blagg, N (1993) *Somerst Thinking Kills Course. Handbook*, Taunton: Nigel Blagg
 8. Associates
 9. Boyer, K (1988) "Critical thinking what is it?" *Social Education*, No. 40: 71-88
 10. Brandt, R (1987) "On teaching thinking skills". *Education Leader Ship*, No. 45
 11. Burden, R & Williams, N (1998) *Thinking Through the Curriculum*. London: Rou-
 12. tledge
 13. Cemal, M (2003) Pre- Logic, formal logic, dialectical logic. [http://www.marxists](http://www.marxists.org/reference/archive/hegel/txt/system2.htm)
 14. [http://www.marxists](http://www.marxists.org/reference/archive/hegel/txt/system2.htm)
 15. Costa, A (1981) "Teaching for intelligent behaviour". *Education Leader Ship*, No. 39
 16. Crow, L (1998) "The relationship between relativity and intelligence, achievement, Personality traits and thinking style in high student's school". Dissertation –
 17. Abstract, 125
 18. Dacey, J (2001) *Fundamentals of Creative Thinking*. Massachusetts: Lexington
 19. Books.
 20. Dasen, B (1979) "Are cognitive processes universal? A contribution to cross – cult-
 21. Ureal purgation psychology". *Journal Personality Social Psychology*, 43(5)
 22. Dellas, C (1982) "Quoted from land, imaging and creative: An integrative prespective
 - a. . *Journal Creative Behavior*, 12 (1):211-219

23. Ellkind, D (1971) "Quality conceptions in junior and senior high school students".
24. *Child Development*, 32: 24-33
25. Facione, P (2002) *Critical Thinking: What Is It and Why It Counts?* U.S.A: The California Academic Press
26. Gray, C & Youngs, R (1991) "Utilizing the divergent production matrix of the structure of intellect model in the development of teaching strategies". *Creative Behavior*, 16 (1):114-133
27. Georgescu, S (1988) *Factors That Aid and Hinder Creativity*. New York: Atherton
28. Harvey, D & Others (1976) *Conceptual Systems and Personality Organization*. New York: Wiley
29. Huitt, W & Hummel, J (2003) "Cognitive development". *Educational Psychology Interactive*, 15 (2):33-56
30. Kasanin, J (1993) *Primary Insufficiency of Psychic Activity*. New York: Basic Books
31. Joyce, B (1988) *Student Achievement through Staff Development*. New York: Longman Press
32. Lefrancois, G (1988) *Psychology for Teaching*. 6th ed, Belmont: Wadsworth Publish
33. Lehman, S (1989) "The relationship between relativity and intelligence achievement, personality traits". *Journal of Creative Behavior*, 25 (2): 111-123
34. Lipman, M (1996) "Critical Thinking: What Can It Be?". *Educational Leadership*, 46: 66-78
35. Lembo, R (1999) *Reading In Educational Psychology*. New York: Crow & Crow
36. Mednik, S (1971) *Examiner's Manual Remote Associates Test*. Boston: Houghton Mifflin Company
37. Payne, R (1991) *Cognitive Abnormalities*. New York: Basic Book
38. Paul, W (2003) *Critical Thinking Handbook*. New York: McGraw – Hill, Inc

48. Perkins, J (2004) Political ideology predicted by parental punishment and formal
49. versus concrete reasoning .[http://www .clearinghouse.mwsc.edu](http://www.clearinghouse.mwsc.edu)
50. Roger, D& Fledman, B (1989) Human Brain, Human Learning. New York:
51. Longman
52. Tan, U (1990)“ Relationship between thinking style to spatial reasoning in males and
53. Females”. ERIC, JC, No. 210567
54. Schwebel, M (1975) “Formal operations in first year college students”. Journal of
55. Psychology, 91
56. Slavin, R (1996) Education Psychology. New York: Prentice – Hall
57. Walker, R (1979) “Written Piagetian task instruments”. Development and Science
58. Education, 63 (2):63-88
59. Whimbwy, (1985) Intelligence Can Be Taught. New York: Bantam
60. Woolfolk, A (1990) Educational Psychology. 4th ed, New Jersey: Prentice - Hall
61. Young, C (2003) From concrete to formal: Ideas with hooks. john.young@smu.ca