

An Investigation of Relationship between Learning Styles and Emotional Intelligence

Asfandeyar Fida¹, Abdul Ghaffar² and Amir Zaman²

¹(Education) Scholar, Department of Education, Abdul Wali Khan University Mardan

²Assistant Professors in the Department of Education Abdul Wali Khan University Mardan

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ABSTRACT

Learning styles and emotional intelligence are the vital constructs associated with personality and accomplishments. Apparently, these constructs have similar roots as both involved emotions and cognition. So, it was expected that these constructs may have certain correlation with each other. For this purpose, the Felder-Silverman Model (1998) of learning styles and Davies, Stankov and Roberts' (1998) conception of emotional intelligence were considered for theoretical underpinning. Both of these constructs were studied through their respective instruments. The students of Abdul Wali Khan University, Mardan were targeted for investigation. The models adopted in this investigation contain four aspects each, but the emotional intelligence also involve 'overall emotional intelligence' – the mean of four facets. The inter-correlation among these aspects was carried through Pearson Correlation technique. The outcomes showed that the visual – verbal and sequential – global components have evident positive association with most of the elements of the emotional intelligence. In opposite, the sensing – intuitive factor of learning was negatively related with emotional intelligence. Generally, most of the correlation values were lower. The researchers lay emphasis on future investigation on similar lines with divorce contexts.

KEYWORDS: Emotional Intelligence, Learning Styles, ILS

INTRODUCTION

In investigations on learning, these days the researchers have diverted their focus from simple notions of intelligence, memory etc. to certain new conceptions like learning styles, meta-cognition, emotional intelligence, social intelligence etc. Learning styles and emotional intelligence are two vital constructs associated with acquisition of knowledge. These constructs are valued higher than others in grabbing success and accomplishments (Din, 2009; Eyyam, Menevis & Dogruer, 2011; Leung & Weng, 2007).

Learning involves various elements, for instance, intelligence, aptitude, interest and motivation and individual difference etc. Differences among individuals are existed in terms of their physique, cognition, affectation and sociability etc. (Din, 2009). Students are also different in terms of preferring learning activities and the processes of gaining information, known as learning styles. Brown (2000) narrated that learning styles are the approaches of the learners to comprehend and execute information. It refers to the students' tendency to favour certain kind of learning stuff which results in their good performance (Din, 2009; Leung and Weng, 2007). This preference is also directed by a person's cognitions. So, it may be considered as containing cognition and emotions. Emotional intelligence is also a major element of success, comfort and confronting life challenges (Cherniss & Adler, 2000; Shahzad, Riaz, Begum & Khanum, 2014). Emotional intelligence is also pivotal in acquiring information (Chamundeswari, 2013; Fouladi, 2012; Shahzad, et al., 2014). Like learning styles, the notion of emotional intelligence is also involved both intelligence as well as feelings.

Both these terms, emotional intelligence and learning styles, are also associated with accomplishments in the climate of learning. Apparently, these two notions contain similar roots and the researchers expected that there may be certain relationship between these two constructs. Keeping this assumption in view, the researchers carried a study to highlight the association between emotional intelligence and learning styles.

The conceptual backdrop of learning styles was underpinned on Felder-Silverman's Model (1998). Likewise, Davies, et al. (1998) conception of emotional intelligence was exercised for gauging emotional intelligence. The facets of these two conceptions were mutually tested for correlation.

Objectives

- To highlight different learning styles of the students

- To determine the level of emotional intelligence of the learners
- To explore the nature of relationship between learning styles and emotional intelligence

REVIEW OF THE RELATED LITERATURE

Learning Styles

In learning environment, subject matter is offered through various forms, for instance, verbal delivery, activity or by means of employing certain aids. A learner may have the capacity to learn from all modes but they may highly prefer one of them. Duff (1998) viewed that the individualized tendencies to give preferences to certain kind of learning stuff and practices over others are known as learning styles (Duff, 1998). Learning style may be explained as a person’s tendency to highly favour certain type of data or learning practices i.e. their favourite mode of acquiring information. In this connection, Cassidy (2004) narrates that learning styles denote a person’s likeness or a premeditated tactics gain learning. In addition, MacKeracher (2004) elaborates that learning styles are typical physical, emotional, cognitive and social patterns those work as relatively long-lasting indicator of how people sense, deal and respond in the learning environment.

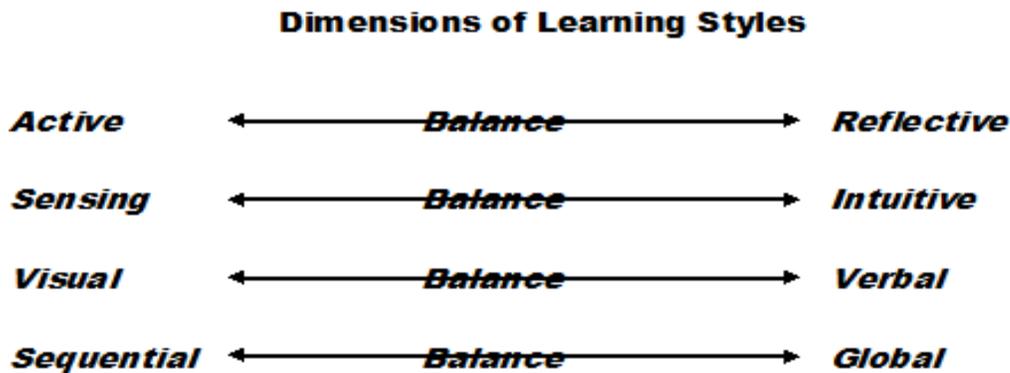
There is a vast family of learning styles. Din (2009) categorized learning approaches in three broad groups i.e. in terms of personality factors, information processing and perception modalities. Some of the popular notions of learning styles are Kolb’s (1984), Honey and Mumford (1992), Dunn and Dunn (1978), Fleming (1995), and Felder-Silverman (1988) and Vermunt (1992) etc.

The researchers selected the Felder-Silverman model for learning styles. It is a wide, thorough, comprehensive and all-encompassing model. The facets of this mode also resemble with the elements of other conceptions of learning styles (see, e.g. Felder & Spurlin, 2005; Filippidis & Tsoukalas, 2009). It can be drawn that this model has sound theoretical background.

Felder-Silverman’s Model (1988)

Richard Felder and Linda Silverman familiarized their conception of learning styles in 1988 (Din, 2009). To them, learning styles is an approach to gain and exercise new ideas and concepts (Felder & Silverman, 1988). It also depicts how learners obtain, interrelate and respond rationally to the learning tasks and ideas (Felder & Brent, 2005; Felder & Silverman, 1988; Felder & Spurlin, 2005). The Felder-Silverman’s (1988) proposed model of four continuums as shown in the Figure 1.

Figure 1



Each continuum is representative of particular mode of learning. The active-reflective element denotes the process to gain data, the sensory-intuitive factor reveals how conceptions are perceived, the visual – verbal component expose the receiving of data and the sequential – global component indicates the order and sequence of gaining information (Felder, 1993; Leithner, 2011; Tanner & Allen, 2004; Zywno, 2003).

Active learners are fond of and better in performing tasks and activities while reflective learners think for a longer duration prior to incorporate ideas and concepts. Sensing learners are pragmatic and want to deal with factual information, workable ideas, reality and dislike vagueness and intricacy. Conversely, intuitive learners are fond of originality, abstraction and establishing relation between concepts. Similarly, Visual learners are better in learning

through viewing pictures, maps, diagrams, tables etc. while, verbal learners have high interest for learning stuff presented through verbal delivery and written manuscripts. In addition, Sequential learners learn in a steps wise and linear manner, focus on minute details. On the other hand, global learners like to study randomly, take major steps and concentrate on the whole picture, ignore miniature details and hast to conclusion (Bacon, 2004; Din, 2009; Filippidis & Tsoukalas, 2009; Mestre, 2010). The dimensions of this model are beneficial in terms of addressing the diversity of learning modes and their relation with tutoring practices (Tanner & Allen, 2004). Besides a topmost preference, a student may have certain inclination towards others modes of learning as well.

Index of learning styles (ILS), designed by Felder-Soloman (n.d), is the tool to locate the learning preferences of respondents on four continuums of Felder-Silverman model (1988). This instrument contains 44 items, with each item followed by two choices representing two extremes of a continuum say, visual or verbal. There are 11 statements for each component of learning approaches (Graf, 2006; Green & Sammons, 2014; Zywno, 2003). ILS is psychometrically sound tool. Literature revealed the test-retest consistency of this tool was found in the range of .7 to .9 (see, e.g. Alumran, 2008; Felder & Spurlin, 2005). The internal consistency has been estimated for various components of learning styles in the limits 41- 76 (See e.g., Felder & Spurlin, 2005; Ultanir, Ultanir & Temel., 2012; Zywno, 2003). Tuckman (1999) supported it by holding that reliability of .5 or higher is ample for tools measuring attitudes.

Emotional intelligence

Emotional intelligence is an amalgamation of ideas, sentiments and actions. It is a usual activity to sense about thinking and consider about feelings to choose what to do. Theoretically, emotional intelligence may be considered a 'tendency' rather than a 'practice' (Sparrow & Knight, 2006). Emotional intelligence is the potentials and skills of an individual to get awareness of and drive his own and others' emotions. Associations, teams and individual with better level of emotional intelligence are considered superior in directing emotions to confront challenges of the environment (Seal, Sass, Bailey & Liao-Troth, 2009).

Emotional intelligence is an inclusive concept including various notions, theories and explanations. It is also thought to be blended with other traits (Sparrow & Knight, 2006). There are various conceptions about emotional intelligence. The ability view, by Mayer and Salovey (1997), is cognitive oriented and viewed it as pure intelligence and estimate it through absolute measurement procedure (Mayer and Salovey, 1997; Mayer, Salovey & Caruso, 2000). Under this conception, emotional intelligence is judged in terms of maximum performance and the accuracy of responses is considered vital similar to intellectual assessments (Batool, 2009; Pérez, Petrides, & Furnham, 2005; Petrides, Frederickson, Furnham, 2004). Goleman (1998) revealed emotional intelligence as the conglomeration of capacities and skills that facilitate administrative activities. It involved multiple procedures for the assessment of emotional cognizance. Likewise, BarOn (1997) viewed it as the allied element of social and emotional skills and capacities those influence cognitive temperament. It is measured with self-report procedure. Further, the trait model (Petrides & Furnham, 2001) establishes emotional intelligence as anthology of social attributes and personal traits in identifying and governing emotions. It is also involved self-report procedure for its determination.

Davies et al. (1998) carried a meta-analysis of various instrument of emotional intelligence. Based on the outcomes, they evolved a four facet notion of emotion intelligence, similar to Mayer and Salovey (1997) and Ciarrochi, Chan and Bajgar's (2001) conceptions (Law, Wong & Song, 2004). They viewed that the facets of emotional intelligence are the capacity to 'appraise personal emotions,' which reveals a person's capability to recognize his emotions and communicate them wisely; second, appraising others' emotions, is the capacity to understand and judge the feeling and emotions of others. Individuals superior with this ability are sharp in perceiving the intentions of other people; third, regulating emotions, indicate the capacity to control and govern one's emotions and quick restoration from tense feelings and finally, use of emotions, is the efficient use of emotions by means of directing them to some prolific activities or augmentation of personal performance and also keeping oneself in optimism (Davies et al., 1998; Kafetsios & Zampetakis, 2008; Law et al., 2004; Mayer et al., 2000a; Wong, Law & Wong, 2004).

Wong and Law (2002) use the Davies et al.'s (1998) and Mayer and Salovey (1997) notions to build their instrument for estimating emotional intelligence. It is a 16 items instrument with 7 point lickert scale. This instrument is labeled as WLEIS (Wong and Law Emotional Intelligence Scale). There are Four statements for the estimation of each component of emotional intelligence (Karim, 2009, 2010; Wong and Law, 2002). This tool fulfills the psychometric norms. Runcan and Iovu (2010) offered that the reliability of this instrument was calculated to be .82.

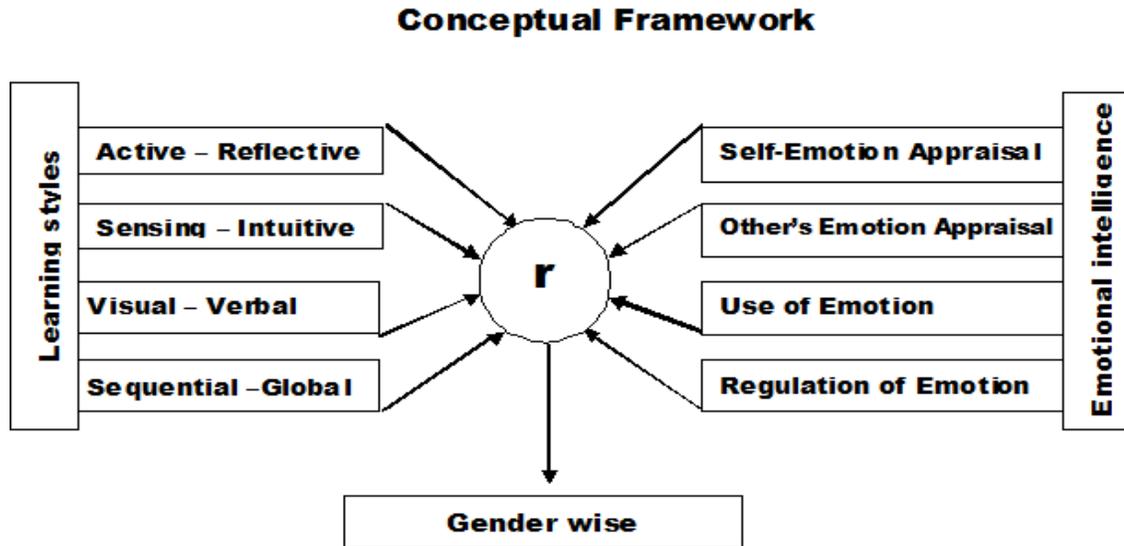
Research on the Relationship between Learning Styles and Emotional Intelligence

Researches on the association between learning styles and emotional intelligence indicated mild association (see, e.g. Elizabeth & Chirayath (2013) and Alavinia & Ebrahimpour (2012). Conversely, Alavinia and Ebrahimpour (2012) and Mahasneh (2013) came across a positive association. In addition, Mahasneh (2013) declared learning style being a superior predictor of emotional intelligence. But researchers like, Shatalebi, Sharifi, Saeedian & Javadi, (2012) declared that there were no considerable association between these facets. The researchers found certain shortcomings in these studies, like use of unfamiliar tools, tools with no theoretical background, small samples etc.

The construct emotional intelligence and learning styles are associated with personality of learners. Their impact on learning is also evident (see, e.g. Caruso, Mayer & Salovey, 2002; Chamundeswari, 2013; Rice, 2007; Zonash & Naqvi, 2011). Keeping in view this discussion, it is expected that these two constructs may be related with one another. This study investigated the nature, direction and magnitude of correlation between these two constructs.

The theoretical background was based on the Felder-Silverman’s Model (1998) of learning styles and Davies et al. (1998) conception of emotional intelligence. Both of these conceptions have four facets each. Emotional intelligence additionally contain ‘overall emotional intelligence – a mean resultant of the four facets. The relation among the facets of these models has been investigated. The entire theoretical design is represented in the Figure 2.

Figure 2



METHOD AND PROCEDURE

It was a correlational expedition. The target population of this investigation was the students of Abdul Wali Khan University, Mardan. The investigation was delimited to the survey of the students enrolled in their sixteenth year of education i.e. students who were studying their final years of master and bachelor courses were targeted for investigation. The logic was that the nature of particular course may have impacted the learning styles of the learners. The data was gathered from a total of 828 students, including male and female.

The learning styles were established through ILS. The reliability of this instrument for this particular context was found to be .63. This degree of reliability is acceptable in terms Tuckman (1999) conception, who believed that a reliability of 0.5 or above is adequate for attitudinal scales. The Wong and Law emotional intelligence Scale was employ to establish levels of emotional cognizance. It has 16 items with a Lickert scale of 7 points. This study established the reliability of WLEIS being .89.

Data Analysis

Table 1
Mean and t-test Analysis of Learning Styles

	Gender	Mean	Std. Deviation	t	Df	Sig. (2-tailed)
Active – Reflective	Male	3.19	.823	.943	826	.346
	Female	3.13	.786	.954	690.765	.341
Sensing – Intuitive	Male	3.21	.700	.763	826	.446
	Female	3.17	.752	.750	630.491	.453
Visual - Verbal	Male	3.32	.908	-2.135	826	.033
	Female	3.46	.906	-2.136	668.485	.033
Sequential – Global	Male	3.10	.803	.768	826	.443
	Female	3.06	.768	.776	689.803	.438

*. The mean difference is significant at the 0.05 level.

The outcomes from average scores indicate that male students have shown superiority on three facets of learning styles. Only on the visual – verbal element, female students have surpassed. But the female superiority is significant as revealed by the t-test findings ($t(826) = -2.135, p = .033 < .05$). Of all, the visual mode of learning was highly favoured by both male and female students (Male, $M = 3.32$; Female, $M = 3.46$). Likewise, the least average values was carried by the sequential-global factor.

Table 2
Mean distribution and t-test for Emotional Intelligence

	Gender	Mean	S. D	t	df	sig. (2-tailed)
Self-emotion appraisal	Male	3.70	.910	-2.475	826	.014
	Female	3.86	.858	-2.509	696.944	.012
Others emotion appraisal	Male	3.66	.956	-1.143	826	.253
	Female	3.74	.924	-1.152	684.204	.250
Use of emotion	Male	3.58	.988	-.824	826	.410
	Female	3.63	.918	-.839	704.591	.402
Regulation of emotion	Male	3.14	1.042	-1.496	826	.135
	Female	3.26	1.096	-1.478	641.425	.140
Overall EI	Male	3.42	.896	-2.058	826	.040
	Female	3.55	.851	-2.084	693.415	.038

*. The mean difference is significant at the 0.05 level.

The mean results indicate that female students have dominated all elements of emotional intelligence and ‘overall emotional intelligence.’ Both male and female students have highest average scores on the ‘appraisal of personal emotions’ (Male, $M = 3.70$; Female, $M = 3.86$) while lowest average scores on ‘regulation of emotions’ (Male, $M = 3.14$; Female, $M = 3.26$).

The results of t-test provided that the female students were meaningfully better to male students on ‘appraisal of self-emotions’ ($t(826) = -2.475, p = 0.014 < 0.05$) and ‘overall emotional intelligence’ ($t(826) = -2.058, p = 0.04 < 0.05$). On the rest of facets, the gender discriminations were insignificant.

Table 3
Correlation between Learning Styles and Emotional Intelligence

Pearson Correlation	Active - Reflective	Sensing - Intuitive	Visual - Verbal	Sequential – Global	Sig. (2-tailed)
Self-emotion appraisal	.046	-.050	.066	.077*	
Others’ emotion appraisal	.047	-.122**	.114**	.057	
Use of emotion	.019	-.052	.087*	.035	
Regulation of emotion	.055	-.037	.033	.090**	
Overall EI	.069*	-.079*	.070*	.082*	

**.. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

There were meaningfully lower correlation between active-reflective aspect and ‘overall emotional intelligence’ ($r = .069, p = .05$). Conversely, the sensing-intuitive element was negatively correlated with ‘others’ emotions appraisal’ ($r = -.122, p = .01$) and ‘overall emotional intelligence’ ($r = -.079, p = .05$). Further, the visual-

verbal factor has lower relationship with ‘others’ emotions appraisal’ ($r = .114, p = .01$), ‘use of emotions’ ($r = 0.087, p = .05$) and ‘overall emotional intelligence’ ($r = .070, p = .05$). Likewise, sequential – global aspect showed lower association with ‘appraisal of self-emotion’ ($r = .077, p = .05$), ‘regulating emotion’ ($r = .090, p = .01$) and ‘overall emotional intelligence’ ($r = .082, p = .05$).

Table 4
Gender wise Correlation

Pearson Correlation		Sig. (2-tailed)			
		Active - Reflective	Sensing - Intuitive	Visual – verbal	Sequential – global
Male	Self-emotion appraisal	.064	-.054	-.005	.031
	Others’ emotion appraisal	.046	-.085	.008	.026
	Use of emotion	.014	-.026	.005	.023
	Regulation of emotion	.028	-.059	-.067	.064
	Overall EI	.066	-.063	-.016	.068
Female	Self-emotion appraisal	.023	-.037	.172**	.167**
	Others’ emotion appraisal	.053	-.178**	.285**	.053
	Use of emotion	.033	-.094	.226**	.058
	Regulation of emotion	.104	-.002	.179**	.136*
	Overall EI	.081	-.099	.204**	.115*

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

The results indicate that the facets of learning styles were not significantly correlated with the components of emotional intelligence for the overall male population. For female learners, the active-reflective component has not shown any considerable association with any element of emotional intelligence. The sensing-intuitive component has meaningful lower negative association with ‘others emotions appraisal.’ The visual – verbal facet was weakly associated with ‘appraisal of self-emotions’ ($r = .172, p = .01$), ‘regulating emotions’ ($r = .179$) and ‘overall emotional intelligence’ ($r = .204, p = .01$). The visual – verbal also shown ‘low to moderate’ relationship with the ‘appraisal of others emotions’ ($r = .285, p = .01$) and mild relation with ‘use of emotions’ ($r = .226, p = .01$). Likewise, the sequential-global continuum has exhibited considerable lower correlation with ‘appraisal of self-emotion’ ($r = 0.167, p = .01$), ‘regulating emotions’ ($r = .136, p = .05$) and ‘overall emotional intelligence’ ($r = .115, p = .01$).

CONCLUSIONS AND RECOMMENDATIONS

The results of the investigation revealed that the average scores of male students were higher than female learners on three modes of learning styles. However, female learners were meaningfully surpassed male on the visual-verbal component. Further, female showed dominance on all elements of emotional intelligence, with meaningful superiority on the assessment of self-emotions and on the ‘overall emotional intelligence.’ In general, a considerable correlation has been observed of the visual – verbal aspect of learning modes with all elements and overall emotional intelligence. Also, the female students have shown superiority to male in both emotional intelligence and on the visual –verbal aspects of learning styles. So it can also be concluded that students superior with visual learning mode have higher emotional intelligence than others. It can be further drawn that the sequential – global and visual – verbal facets have lower positive relationship with emotional intelligence. Conversely, the sensing – intuitive factor has lower negative associations with emotional cognizance. Generally, most of the correlational values were lower and indicate a weaker association. In addition, there were no considerable correlations among the elements of learning modes and emotional intelligence for male students.

It is recommended that researchers may probe the possible reasons of no correlation for male learners. In addition, the negative correlation of sensing – intuitive element with the components of learning styles may also be put to investigations. The researchers may also replicate this investigation with various samples, for instance, private sector, distance education, colleges, schools and madrassas etc.

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