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**Correlations between University
Educators' Communication and
Learning Styles**

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Dr. Gregory T. Papanikos
President
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Correlations between University Educators' Communication and Learning Styles

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Abstract

Minimal research has been conducted in the area of university educators' communication and learning style preferences and how these preferences affect the development of lesson content, the selection of learning materials, as well as the communication of this content when delivered in the classroom. While there has been significant research conducted in the areas of communication styles and learning styles, what is challenging to acquire is critical information on how communication style and learning style preferences are applied by university educators when they are engaged in the three main lesson activities: developing, delivering, and debriefing. Understanding the relationship between these two styles provides important insights into the ways that university educators apply their learning styles and how they use their communication styles during lesson activities. Examining this relationship also provides knowledge that can be used to inform university educators on communication and teaching approaches. This study involved 72 university educators from MacEwan University, Edmonton, Alberta, Canada who participated in completing an inventory that identified how they applied their communication and learning styles during the three main lesson activities. The results provided important information about how professors and instructors apply the ways that they utilize their communication and learning style preferences in teaching and learning situations.

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Background

University educators are critical contributors to the development and communication of programs, courses, and lessons. As part of their role, educators are expected to create comprehensive, learner-centred lessons that are communicated to students through key information on specific topics. There are various factors that affect how educators develop and communicate their lesson plans, including context, intent, and arrangement of materials (Stark, 2000, p. 413). Additionally, teaching strategies (Gagne, 1987; Bloom, 1956; Grasha, 2002), communication styles (Alessandra & O'Connor, 1998; De Bono, 1985; McLuhan, 1964), learning styles (Kolb, 1984; Felder & Solomon, 1991; Rayner & Riding, 1997; Robotham, 1999), experiences, events and meaning (Fiddler & Marienau, 2008), as well as instructional choices, elaborations, and reflections (Brookfield, 1995; 1987; Kolb, 1984; Reigeluth, 1978) also influence educators' decisions about a lesson, and its learning outcomes. Similar to other individuals, the communication and learning style preferences of an educator develops early in life and continues to evolve, merge, intermix, and scaffold layers of knowledge and experience into a complexly patterned and collaboratively comprehensive system that is used to sustain an educator's advancement of learning and teaching processes. Little research exists that examines the correlations between communication and learning style preferences of an educator and how these styles intersect when educators are engaged in the three main activities of a lesson: developing, delivering, and debriefing.

Purpose of the Study

The purpose of this quantitative study was to identify, determine, and explain the correlations between university educators' communication styles and learning styles as they are applied when developing, delivering, and debriefing a lesson. The knowledge derived from this study can be utilized by faculty when developing lessons.

Method of the Study

This study collected quantitative data in a secured online environment using the Educators' Application of Their Learning and Communication Styles (EALCS) Inventory (Mazo, 2010) to capture information about university educators' applications of their communication and learning styles during the three main lesson activities of development, delivery, and debriefing.

Research Questions. 1) Are there correlations between university educators' communication and learning styles when engaged in lesson development, delivery, and debriefing? 2) Are there specific patterns of usage of educators' dominant communication and learning styles during these three main activities of a lesson?

Theoretical Base

Considerable discussion and research have been conducted in the area of communication and learning styles. Various theories and models have been formulated to identify and to demonstrate the structure, criteria, and conditions of communication and learning styles based on observations during learning situations and based on active and vicarious experiences. Significant effort has been expended on the development and explanation of communication and learning styles, the bases from which they have been established, and the various methods in which they have been applied. Various theories informed this study including De Bono's (1985) Six Thinking Hats which is used when communicating ideas and concepts within various situations, including educational settings. As well, this study was informed by McLuhan's (1964) theory regarding communication media which was grounded in the idea that the medium was the message. McLuhan defined speech as a form of

communication that was "an actual process of thought, which [was] in itself nonverbal" (pp. 8-9). The medium of "speech" as a form of communication is prevalent in universities in the form of lectures, discussions, debates, and readings facilitated by university educators. It is this medium of speech that signals the educator and learner to begin communicating about critical theory and concepts that are required for critical thinking in higher education. With respect to theory from the education discipline, Jung ([1921] 1971), Dewey (1963), Lewin (1951), and Piaget (1973) enlightened this study with their cognitive approaches, information processing theory, and learning styles. More specifically, the following two theories were directly applied in this study: 1) Alessandra's and O'Connor's Communication Styles Theory and its four communication styles (1998), and 2) Kolb's (1984) Experiential Learning Theory (ELT) and its four learning modes and styles. Following is a description of these two theories and how they were applied in the study.

Alessandra's and O'Connor's Communication Styles Theory. Alessandra's and O'Connor's Communication Styles Theory (1998) forms the first of two bases that supported the theoretical framework underlying the approach to this study. Four communication styles comprise Alessandra's and O'Connor's approach; 1) controller/director, 2) supporter/relater, 3) promoter/socializer, and 4) analyzer/thinker. According to the researchers, the *controller/director* communication style applies a command style when completing work, when making decisions, and when delegating to others. This type of communicator values accomplishing tasks efficiently, is results-oriented, is enterprising, and is competitive. These communicators are strong problem-solvers who seek answers through effective communication and articulation of ideas. A university educator may apply this communication style when controlling the content of a lesson during its development, and when directing this content to the students during classroom delivery of a lesson. The *supporter/relater* communication style values harmonization of ideas, circumstances, and events through the blending of perspectives and approaches for the purpose of establishing stability in a situation. This type of communicator believes that the acceptance of ideas through careful and evaluative listening skills facilitates solid decision-making processes. Communicating with people and building relationships are critical to this type of communicator, as networking with others maintains important communication connections. During a lesson, a university educator may apply this communication style by selecting learning materials that communicate through human relationships used to depict fundamental theories or critical events of a concept that is being taught. Open discussions and debates are used to communicate the interrelationships and interconnectedness between individuals and situations so that students understand the concept by engaging in dialogue. For example, an educator may choose to introduce the theory of relativity by way of introducing Albert Einstein, his life, and his approach to his theory (Isaacson, 2008).

Two additional communication styles complete Alessandra's and O'Connor's (1998) inventory. The *promoter/socializer* communicator values enjoyment, helps others, is open to others' opinions and ideas, and generates and originates many and various new ideas. Flexibility in communication is critical to these types of communicators who are also intuitive, creative, and optimistic. As a university educator, using this type of communication style enables open and creative discourse with students on a topic where there is an interchange of ideas. What shapes the *analyzer/thinker* communication style is the application of the skill of assessment in all that is communicated. This type of communicator respects accuracy in details and in being correct in those details. Decision-making processes are driven by

thoroughness in communicating these details before acting on a decision. The undercurrent of logic is strategically applied as this type of communication style approaches decisions with contemplation, caution, and deep reflection. Critical thinking and reflection processes are prevalent within this communication style and can be applied by university educators through the development of assignments such as journaling and problem-solving at multiple levels (Alessandra & O'Connor, 1998).

In this study, Alessandra's and O'Connor's (1998) four communication styles were articulated in the form of statements that constituted questions 19-36 in the EALCS Inventory (Mazo, 2010). When university educators completed this part of the inventory, the result was an identification of their communication styles and how these styles were applied during the three activities of a lesson (development, delivery, and debriefing).

Kolb's Experiential Learning Theory. Kolb's (1984) Experiential Learning Theory (ELT) forms the second theoretical base that underlies the approach to this study. When developing his theory, Kolb drew from Jung's ([1921] 1971) research on psychological types (pp. 78-80), and from Dewey's (1963), Lewin's (1951), and Piaget's (1973) traditions of experiential learning (p. 17). From these theories and his own research, Kolb deduced that "learning [was] a continuous process grounded in experience" (p. 27). To further demonstrate how these learning experiences and processes interconnected, Kolb developed a model and four learning styles that explained how these processes functioned in learning.

Within his ELT theory, Kolb (1984) identified four learning modes that combined into pairs which formed four learning styles: 1) convergent 2) divergent 3) assimilation, and 4) accommodative (pp. 77-78). According to Kolb, the *convergent* learning style applies the learning modes of "abstract conceptualization (AC) and active experimentation (AE)," where a learner creatively and extensively uses problem solving during daily decision making, with a focus on the details of tasks and problems rather than on people. The convergent learning style is relevant to university educators in that the act of decision-making can be found at all levels within the three main activities of a lesson. Making these decisions involve selecting lesson materials during development, determining which methods and techniques should be used during delivery of the lesson content, and reviewing the lesson after its completion to identify needed changes for lesson improvement and quality. As such, one of the critical roles of university educators is to ensure that learning is facilitated through these decisions where their outcomes are witnessed during lesson class time. With respect to the *divergent* learning style, "concrete experience (CE) and reflective observation (RO)" are the two learning modes that are combined to form this style. This style focuses on working effectively and efficiently, viewing a topic creatively from a broader perspective. In relation to university educators, the divergent learning style can be identified when used during hands-on learning experiences such as experiments in labs, and field excursions such as historical and archeological digs that are supported by observations which are generalized into emerging themes or concepts (pp. 77-78).

Kolb's (1984) ELT included two other learning styles: assimilation and accommodative. Using "abstract conceptualization (AC) and reflective observation (RO) learning modes," the *assimilation* learning style focuses on the ability to gather many pieces of information and then assemble them into a holistic idea or image (p. 78). In the case of university educators, the creation of a lesson requires that educators collect critical information about a topic and present it to students in accessible units for integration into their learning cognitions. Writing in class, debating in

competitions, and engaging in deeper discussions that form part of a collaborative assessment of a critical philosophy or theory are examples of how university educators can apply the assimilation learning style. With respect to the *accommodative* learning style, the learner combines the “concrete experience (CE) and active experimentation (AE)” learning modes in order to understand the relationships between things and people, viewing people as a key asset to learning (p. 78). University educators can apply this learning style when teaching historical and political events. Hence, the three main lesson activities of development, delivery, and debriefing provide numerous and various opportunities for university educators to discuss and understand relationships between individuals, things, and concepts. As such, Kolb argued that all four learning styles were integrated when the learner reached adulthood, but also recognized that each individual had a preference to one of these learning styles (pp. 64-65). Kolb also depicted learning as a cycle and explained that individuals entered the cycle when and where appropriately needed based on the type and nature of the experience. University educators also present a preference to a learning style that can affect the way that they develop course materials, deliver lessons, and reflect on these lesson activities.

Kolb’s (1984) ELT theory was selected for this study based on the following criteria: 1) it has withstood the rigors of analysis for 28 years; 2) it is based on Jung’s ([1921] 1971) research on the two personality attitudes of introversion and extraversion and four personality functions (pp. 78-80), 3) it is informed by Dewey’s (1963), Lewin’s (1951), and Piaget’s (1973) traditions of experiential learning (p. 17), and 4) its four learning modes and styles framework work effectively with Alessandra’s and O’Connor’s (1998) four communication styles framework.

In this study, Kolb’s (1984) four learning modes and styles were articulated in the form of statements that constituted questions 1-18 in the EALCS Inventory (Mazo, 2010). When university educators completed this part of the inventory, the result was an identification of their learning styles and how these styles were applied during the three main lesson activities. Both communication and learning styles were compared in this study.

Population and Data Collection

Research population. Data collected from the EALCS Inventory (Mazo, 2010) were obtained from 72 university educators (professors, instructors) who taught at MacEwan University, Edmonton, Alberta, Canada. These educators derived from four faculties: business, arts and sciences, fine arts and communications, and health and community studies. As well, all university educators who participated in the study indicated having taught at the university within the previous twelve months. This ensured that there was adequate time for them to be engaged in all three main lesson activities of development, delivery, and debriefing.

Data collection process. This study collected quantitative data for eight (8) weeks using a secured online environment where the EALCS Inventory (Mazo, 2010) was made accessible to university educators who took approximately 15-20 minutes to complete it. The inventory was designed using a combination of Alessandra’s and O’Connor’s (1998) communication styles theory and Kolb’s (1984) learning styles theory, which assisted in shaping and formulating the 36 sets of statements comprised within it. Data was collected on how university educators’ applied their communication and learning styles when engaged in the three main lesson activities of development, delivery, and debriefing. A research assistant was employed to facilitate the data collection process and to ensure there was anonymity between the researcher and the research participants.

Results

The results of data collected from the EALCS Inventory (Mazo, 2010) are indicated in Table 1 with further explanation provided.

Dominant communication and learning styles. Data was collected from the EALCS Inventory (Mazo, 2010) to determine what the dominant communication and learning styles were as university educators transitioned from activity one through to activity three. In activity one, develop a lesson, the results indicated that educators applied a promoter/socializer communication style and a convergent learning style which were combined to form usage pattern three. More significantly, usage pattern three was repeated in its dominance when educators moved from activity one, development of a lesson, to activity two, deliver a lesson. This indicated that the dominant usage pattern of educators remained the *same* as educators transformed from the role of lesson developer to that of a teacher. However, when a university educator transitioned from a teaching role to the role of reviewer and evaluator after lesson completion, the dominant usage pattern shifted to usage pattern 11 which included the communication style of analyzer/thinker and the learning style of assimilation. This shift suggested that when the role of a university educator changed between activity two and three, the dominant communication and learning styles also changed. As such, a significant percentage (Avg. 70%) of educators approached the lesson activity of debriefing using a similar process. It also indicated that there was a fundamental shift in the application of these two types of styles due to the nature of activity three which generally includes the processes of reflection and deduction.

Correlational usage patterns. The dominant correlational usage pattern for activity one (develop a lesson) and activity two (deliver a lesson) was Usage Pattern 3 = Promoter/Socializer and Convergent. This indicated that when university educators were engaged in developing lessons, selecting materials for their lessons, and then delivering these instructional materials to students in the classroom, that an average of 61% applied the dominant communication style of promoter/socializer and that an average of 70% applied the dominant learning style of convergent. The common attributes of these two styles included the ability to discuss and harmonize the ideas of others and to value and accept these ideas in the context of building relationships and networks with individuals. As such, this suggested that educators sought the opinions of others (colleagues and students) and were collaborative in their communication and learning styles approaches.

With respect to activity three (debrief a lesson), the dominant correlational usage pattern applied by university educators was Usage Pattern 11 = Analyser/Thinker (71%) and Assimilation (85%). When an educator reviewed and reflected on a lesson, the dominant communication style changed from one that promoted open discussion and socialization during activities one and two, to a dominant communication style that was analytical and logical when engaged in activity three. Educators also shifted their dominant learning style from one that sought harmonization and acceptance of ideas during activities one and two, to one that assimilated various ideas through logic and reason.

Table 1. Correlations between Communication and Learning Styles when University Educators Engage in Three Main Lesson Activities

Three Main Lesson Activities	Dominant Communication Styles applied by University Educators (N=72) (%)	Dominant Learning Styles applied by University Educators (N=72) (%)	Common Attributes of Dominant Communication and Learning Styles	Correlations between Dominant Communication and Learning Styles Usage patterns based on the three main lesson activities.
Activity One: Develop a lesson	Promoter/Socializer Communication Style (DCS 3) (66%)		<ul style="list-style-type: none"> • Full of ideas to discuss openly. • Seeks others' opinions in discussions. 	Usage Pattern 3 = DCS 3 and DLS 2: <ul style="list-style-type: none"> • Promoter/Socializer (DCS 3) (66%)

		Convergent Learning Style (DLS 2) (71%)	<ul style="list-style-type: none"> • Harmonizes ideas and relationships • Values acceptance of ideas, circumstances • Builds networks of individuals 	<ul style="list-style-type: none"> • Convergent (DLS 2) (71%) <p>Disciplines that applied this dominant usage pattern mostly derived from English, Business, Education, Sciences.</p>
Activity Two: Deliver a lesson	Promoter/Socializer Communication Style (DCS 3) (56%)		<ul style="list-style-type: none"> • Full of ideas to discuss openly. • Seeks others' opinions in discussions. 	<p><u>Usage Pattern 3 = DCS 3 and DLS 2:</u></p> <ul style="list-style-type: none"> • Promoter/Socializer (DCS 3) (56%) • Convergent (DLS 2) (67%) <p>Disciplines that applied this dominant usage pattern derived from English, Business, Education, Sciences.</p>
		Convergent Learning Style (DLS 2) (67%)	<ul style="list-style-type: none"> • Harmonizes ideas and relationships • Values acceptance of ideas, circumstances • Builds networks of individuals. 	
Activity Three: Debrief a lesson	Analyser/ Thinker Communication Style (DCS 4) (71%)		<ul style="list-style-type: none"> • Assesses all things. • Values accuracy and being right. • Makes decisions through planning. • Idea oriented. • Logical, thrifty, efficient approach. 	<p><u>Usage Pattern 11 = DCS 4 and DLS 1:</u></p> <ul style="list-style-type: none"> • Analyser/Thinker (DCS 4) (71%) • Assimilation (DLS 1) (85%) <p>Disciplines that applied this dominant usage pattern mostly derived from Classics, Sciences.</p>
		Assimilation Learning Style (DLS 1) (85%)	<ul style="list-style-type: none"> • Assimilates many ideas from others into one integrated explanation. • Applies logic/reason. 	

Discussion

Communication and learning processes form the foundations of teaching. Integration of these two processes has been recognized by Vygotsky (1973), Durkheim (1956) and Dewey (1963), as well as by Kolb (1984), McLuhan (1963), and De Bono (1985). The following discusses the two research questions used to direct this study.

Research question one. Are there correlations between university educators' communication and learning styles when engaged in lesson development, delivery, and debriefing? There are three correlations that were evident in this study. The *first* correlation existed between activity one (development of a lesson) and activity two (delivery of a lesson) where the same dominant correlational usage pattern has been applied: Usage Pattern 3 (See Table 1). More specifically, when university educators were developing the structure, content, and direction of a lesson and when they were delivering this instructional material in the classroom, an average of 70% of those who participated in this study applied the promoter/socializer communication style and an average of 61% applied the convergent learning style. This indicated that when these university educators transitioned from their role as lesson developer to their role as lesson teacher, they retained the same dominant communication and learning styles. This also suggested that there was a significant level of consistency between the processes of lesson creation and teaching.

The *second* correlation existed when these university educators transitioned from activity two (delivery of a lesson) to activity three that occurs after a lesson is completed. An average of 78% of the university educators who participated in the study applied the correlational usage pattern 11 which consisted of using the dominant communication style of an analyzer/thinker and the dominant learning style of assimilation. This indicated a clear shift in the dominant communication and learning styles application when educators moved into the third activity of a lesson (debriefing).

The *third* correlation existed between the common attributes of the dominant communication and learning styles that were applied by university educators. When comparing the common attributes of the correlational usage pattern three, there emerged two critical attributes that were shared by the promoter/socializer communication style and the convergent learning style: 1) harmonizing various and many ideas, 2) seeking and valuing others' ideas. This suggested that the connection that exists between the dominant communication style and learning style applied by university educators during lesson activities may also be based on common attributes that may be used as a collaborative support system in order to establish a level of interconnectedness and consistency within a lesson. This connectedness also suggested that there is a relationship between these two types of styles that is required for a successful flow of lesson ideas and content when transitioning from activity one (development of a lesson) to activity two (delivery of a lesson). Bertalanffy (1968) described this type of interchange as an "open system" (p. 48) where an exchange of information between two environments occurred, which in relation to this study would be represented as the development and delivery lesson activities. This relationship was evidenced more significantly in the correlation that existed when comparing common attributes within the dominant usage pattern 11, where the critical attribute of "logical reasoning" was shared between the dominant analyzer/thinker communication style and the dominant assimilation learning style. With 71% and 85% of university educators indicating this correlational usage pattern during activity three (debriefing a lesson), there was a significant recognition of and underlying use of logic in both dominant types of styles.

Research question two: Are there specific patterns of usage of educators' communication and learning style preferences during the three main activities of a lesson? Two specific dominant correlational patterns of usage were identified that the university educators applied during this study. Usage pattern three was applied as the dominant pattern throughout lesson development and delivery activities. This indicated that an average of 70% of university educators applied this pattern within two-thirds of the activities. Usage pattern eleven was the dominant correlational pattern applied in activity three, which indicated a fundamental shift in the application of dominant communication and learning styles. This paradigm shift from correlational pattern 3 to pattern 11 suggested that educators applied their styles of communication and learning differently when engaged in the debriefing function of a lesson where deeper reflection and contemplation generally occurs.

Conclusion

Communication and learning styles are critical factors to consider when university educators are engaged in lesson development, delivery, and debriefing. These styles can be applied collaboratively by way of common attributes that are comprised within each style. This shared approach between the two types of styles indicates that the relationship between communication and learning is critical in educational activities.

Correlations between style usage patterns indicated that an average of 70% of the university educators in this study applied the same pattern (usage pattern 3) when creating lessons and selecting instructional materials, as well as when delivering lesson content through classroom teaching. Hence, this suggested that the transition between lesson development and delivery activities presented the need for a significant bridging of ideas and

content. This also suggested that application of communication and learning styles worked collectively to ensure that there is a consistent flow of ideas when writing, shaping, and selecting instructional materials for a lesson to ensure that the delivery of the lesson is constant. However, a paradigm shift occurred when the university educators in this study transitioned from the delivery activity of a lesson to the debriefing activity of a lesson. The dominant communication and learning styles usage pattern shifted from pattern 3 (promoter/socializer and convergent) that was applied in the first two activities of a lesson to pattern 11 (analyser/thinker and assimilation) that was applied in the third activity of a lesson. As such, this shift indicated that the application of styles relating to the creation and teaching of a lesson is different than the application of styles relating to reflection after a lesson.

Future Research

The relationship that exists between university educators' communication and learning styles is an important and critical one to understand in terms of its impact on lesson development, delivery, and debriefing activities. As such, additional and similar research is required to further explore this relationship.

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