DEVELOPING STUDENTS' CREATIVITY: importance of creativity styles

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Proposition

It is difficult to find ways to focus on examining how much creativity a student possesses. I propose that examining the relationship between creativity and cognitive styles is useful to explore, and have found research, notably Guilford 1980; Kirton 1976; Messick1984 and Witkin and Goodenough 1981 that indicates that cognitive styles have an impact upon thinking, problem solving, decision making and creating.

This avenue of research appears to be a productive one for several reasons. First, examining styles in relationship to creativity will assist researchers and teachers in discovering what kinds of creativity techniques work best with what kinds of people and under what kinds of circumstances (Stein 1975). Secondly, understanding style may help an individual to appreciate why someone else approaches or solves problems differently than oneself. Finally, understanding style may be very important for those that rely on group creativity. Research has demonstrated that individuals of various styles will possess different creative strengths and weaknesses (Bloomberg 1967, Kirton 1976 and Spotts and Mackler 1967). Utilizing the styles and strengths, which various individuals bring to a group, will empower the group to function more effectively and efficiently. In the context of the growing interest in problem and enquiry based learning in higher education it would be worth considering the likely group dynamics that would result from mixes of people with different cognitive styles.

What do we mean by cognitive style?

Cognitive styles refer to the preferred way an individual processes information and describe a person's typical mode of thinking, remembering or approach to problem solving. Cognitive style simply denotes a tendency to think and behave in a certain manner. Learning styles (for example those defined by Kolb 1984) specifically deal with different styles of learning. Cognitive and learning styles can be used to predict what kind of teaching approaches would be most effective for an individual or group. This short piece focuses on cognitive styles that might be useful to consider when designing teaching for creativity.

Before discussing a specific cognitive style theory, it is important to review the characteristics of cognitive style. Witkin and Goodenough (1981) believed that style is concerned with form rather than content. In this was, style refers to the

manner in which we characteristically process information. Styles are also pervasive. Messick (1976) stated that "...styles cut across diverse spheres of behaviour". In other words, the style that you possess at work you will most likely possess at home or play. Cognitive styles are also stable over time; measured over a period of time an individual's cognitive style will remain relatively the same (Witkin, Moore, Goodenough and Cox 1977).

Another important point about style is that it is not an either-or situation; Gregorc (1979) shows that we all possess some of each style, however each of us prefers one style over the other. Messick (1976) states that "...each style has adaptive value depending on the situation....no one style is consistantly more adaptive than another." In this way, styles are 'value neutral'. Each style possesses its own strengths and weaknesses. Therefore, all styles are valuable and useful.

One of the most promising cognitive style theories to impact the field of creativity that I have found is Kirton's (1976) 'adaptation-innovation' distinction. Mainly through his observations of managers, Kirton (1961) noted that some were able to initiate change that improved the current system, but were unable to identify opportunities outside it. He calls these people 'adaptors.' Other managers were fluent at generating ideas that led to more radical change, but generally failed in getting their radical ideas accepted. Kirton termed this style 'innovative.'

These observations gave rise to Kirton's (1976) hypothesis that there is a personality continuum called adaptor-innovator, which presumes two very different approaches to change. The adpator prefers to improve things while working within the given paradigm or structure. The adaptor is characterized by precision, reliability, efficiency, discipline, and conformity. He/she is seen as both safe and dependable in his/her work. The adaptor reduces problems by improvement and greater efficiency. The innovator, however, prefers to do things differently, to challenge the paradigm or structure. He/she sometimes is seen as undisciplined, thinking tangentially, and as approaching tasks from unexpected angles. The innovator solves problems by breaking down patterns and doing things differently. The descriptions of adaptors and innovators shown below present the characteristics of the extreme ends of the style continuum. I have found that other researchers who have examined this theory have stressed that it is important to recall that style is not an 'either-or' situation; their consideration being that individuals possess varying degrees of both styles. They are almost certainly right. Some individuals will show a strong preference for either adaptiveness or innovativeness, and will exhibit many behaviors consistent with their preferred style. Others possess only a slight preference for either style, and exhibit characteristics of both the adaptive and innovative style.

Cognitive and behavioural style characteristics of adaptors and innovators

Characteristics of adaptors

- Characterized by precision, reliability, efficiency, methodicalness, prudence, discipline, and conformity.
- Concerned with resolving problems rather than finding them.
- Seeks solutions to problems in tried and understood ways.
- Reduces problems by improvement and greater efficiency, with maximum of continuity and stability.
- Seen as sound, conforming, safe, and dependable.
- Liable to make goals a means.
- Seems impervious to boredom, seems able to maintain high accuracy in long spells of detailed work.
- Is an authority within given structures.
- Challenges rules rarely, cautiously, when assured of strong support.
- Tends to have high self-doubt; reacts to criticism by closer outward conformity; vulnerable to social pressure and authority; compliant.
- Is essential to the functioning of the institution all the time, but occasionally needs to be dug out" of his or her systems.

Adaptors when collaborating with innovators

- Supplies stability, order and continuity.
- Maintains group cohesion and cooperation -- is sensitive to people.
- Provides a safe base for riskier operations

Characteristics of innovators

- Seen as undisciplined, thinking tangentially, approaching tasks from unsuspected angles.
- Could be said to discover problems and discover avenues of solution, manipulates problems by questioning existing assumptions.
- Is catalyst to settled groups, irreverent of their consensual views; seen as abrasive, creating dissonance.
- Seen as unsound, impractical; often shocks his or her opposite.
- Capable of detailed routine work (system maintenance) for only short bursts; quick to delegate routine tasks.
- Tends to take control in unstructured situations.
- Often challenges rules, has little respect for past custom.
- Appears to have low self-doubt when generating ideas, not needing consensus to maintain confidence in face of opposition.
- Is at his or her best in unscheduled institutional crises; can even help to avoid them if he or she can channel efforts.

Innovators when collaborating with adaptors

- Supplies task orientation by breaking with the accepted theories of the past.
- Often threatens group cohesion and co-operation -- is insensitive to people.
- Provides the dynamics to bring about periodic radical change.

Kirton (1976) believes these cognitive styles are found in everyone and that they play a role in creativity, problem solving, and decision making. Both of these cognitive styles result in 'engaged states of being.' We might contrast this with disengaged or more passive styles of engagement that simply lead to reproduction or assimilate information with little processing.

Kirton maintains that adaptors and innovators possess equal levels of creative potential. However, Kirton states, "...although both adaptors and innovators create in their own way, the literature on creativity has concentrated on describing the innovators." Both styles of creativity are important and necessary for the development and growth of our society. For example, innovative creativity gave us the first airplane, and adaptive creativity enables us to fly the Atlantic Ocean in less than four hours. Innovative creativity breaks down paradigms and establishes new ones, while adaptive creativity can improve upon the current paradigm. Organizations require the service of both styles. Kirton (1977) believes a team that is heterogeneous, in terms of styles, will be better prepared to meet all contingencies, than a team that is homogeneous.

He also states that "...instead of valuing one style, the organization should respect and value the adaptive and innovative styles of creativity. Individuals within an organization can work more effectively together by capitalizing on each others' strengths, rather than punishing each other because of individual differences." If an atmosphere of openness and trust prevails in an organization, then these adaptors and innovators will be theoretically able to join their creative talents to propel the organization to success.

It can be seen that people are creative in varying degrees and styles. Past research has demonstrated that an individual's level of creative potential can be increased through formal training. Current research is examining the relationship between cognitive style and creative behaviour. This new frontier in creativity research has already produced a number of positive outcomes for both individuals and organizations interested in creativity (Gryskiewicz 1982). One of the most beneficial outcomes is the awareness that individuals will manifest their creativity in different ways, and that both styles of creativity are valuable.

Implications for Teaching and Learning

From a teaching perspective, the higher education world is in a state of transformative change and institutions need teachers with imagination and both

sorts of cognitive style. Teaching teams, departments, institutions need people whose cognitive styles enable them to move outside current orthodoxy in programme design, forms of delivery and support to invent new ways of thinking about the curriculum, teaching, learning, assessment, support, student engagement and all the other things that are necessary to provide good education. But success will only be achieved if most teachers continually refine and adapt their practices to enrich students' experiences and learning.

A primary concern of teachers is to develop learning experiences that students' find engaging and teaching strategies that cause students to be engaged. Both of the cognitive styles described above require engagement. Some course designs and teaching and learning methods are more likely to create the conditions that will support the deployment of these different cognitive styles and enable students to recognise that different cognitive styles lead to different behaviours and outcomes. Raising awareness in students of the cognitive styles they adopt in different problem working situations is something that might be designed into reflective exercises and personal development planning.

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