Creativity and education: Facilitating transfer of learning through digital creativity multimodal analysis (DCMA) of social media posts

Locky Law

Abstract This paper discusses the inadequacy of research in multimodal creativity that subsequently limits the effectiveness of existing pedagogies in digital literacy, multimodal literacy and creativity literacy, particularly in the aspect of transfer. Using the Analytical Framework for Creativity in Multimodal Texts (AFCMT), this paper demonstrates how the transfer of learning can be facilitated through a digital creativity multimodal analysis (DCMA) of several viral social media posts from Hong Kong, placing emphasis on instructional design, content relevance and transfer specificity. Key components of AFCMT, namely the IEEE matrix and the Cline of Creativity Complexity (CCC), are discussed in terms of their flexibility and potential incorporative power with theories, hypotheses or frameworks of other research approaches from various disciplines.

Keywords: creativity; multimodality; digital creativity; multimodal creativity; multiliteracy; digital literacy; creativity literacy; transfer; education; social media;

Introduction

The multifaceted nature of creativity has fascinated researchers from almost every discipline ever since creativity was officially academised in the 1920s (Pope, 2005; Vo & Carter, 2010), first popularised in the arts-education circle in mid-1940s (Johnson, 1948; Blair, 1949), then proliferated in psychology and sociology

since the 1950s (Rogers, 1954; Meer & Stein, 1955; Drevdahl, 1956; Drevdahl & Cattell, 1958; Anderson, 1959). In the last three decades, advances in computer and internet technologies have injected new modes of communications, most prominently the social media, which naturally demand new explanations and theories on creativity in its digital form.

While there is an abundance of hypotheses in creativity (see Runco, Nemiro & Walberg, 1998; Csikszentmihalyi, 1988, 1997, 1999; Boden, 1994, 1998, 2004, 2009; Carter, 2004) and sophisticated theories in multimodality (see Kress and van Leeuwen, [1996] 2006; Veloso & Bateman, 2013; Bateman, 2007, 2008, 2012, 2013) as two independent entities, there is a lack of a simple unified theory or an applicable framework which explains both phenomena as one (Law, Creativity & Multimodality: an Analytical Framework for Creativity in Multimodal Texts (AFCMT), in press), particularly one that is designed from a multimodal creativity user's perspective – users that include teachers and learners of multimodal creativity – rather than solely from a researcher's point of view. As a matter of fact, research on digital creativity in educational contexts has by far focused largely on evaluating the effectiveness of multimedia applications and multimodal pedagogies through case studies, drawing conclusions from samples of various sizes and offering pedagogical recommendations based on the findings of the studies (see, for examples, Thurlow & Mroczek, 2011; Bock, 2016; Marchetti & Cullen, 2016). As valuable as these case studies are, they demand a great deal of understanding, unpacking and extraction of information from teachers prior to transforming the (perceived) relevant extracts into learner-friendly bitesizes for their students. Students on the receiver's end, who are mostly digital natives (Prensky, 2001), are expected to accept what have been provided without realising the theories and studies behind the scenes, depriving them of knowledge and chances to question the viability of teachers' approaches. As a result, the understanding of learning

may occur, but the transfer of learning may not, simply because the negotiation of what should be learned is absent, putting content relevance at risk.

Learning and transfer are two related but distinct entities: learning is the acquiring of skills and knowledge in one context, while transfer (of learning) is the application of these acquired skills and knowledge in new situations (Salomon & Perkins, 1989; Perkins & Salomon, 1994; Haskell, 2001). Because successful learning does not guarantee successful transfer in most cases (James, 2014), educators should place emphasis on factors that not only have a positive effect on learning, but also on transfer. Studies from business, HRD, and information management have shown that successful transfer is related to factors such as instructional design (Clark & Voogel, 1985; Baldwin & Ford, 1988), content relevance (Baldwin & Ford, 1988; Kontoghiorghes, 2002; Lim, 2000), and transfer specificity (Clark & Voogel, 1985; Goldstein, 1986; Lim & Morris, 2006; Park, Lim, & Chang, 2017). Translating these factors for the context of (digital / multimodal) creativity teaching and learning, these include providing clear instructions on understanding creativity – i.e. how creativity is defined and differentiated, perceived and recognised, formulated and (co-)constructed, and analysed and categorised; carefully selecting transferrable content with negotiated examples from the genres of interest – i.e. social media posts from iconic people of students' interest, such as influencers and celebrities, artists and creatives, business and political leaders, that exemplify a form or pattern of creativity; and specifying explicit guidelines on where and how to approach new situations as well as suggesting possible genres to which their knowledge and analytical skills can be applied – i.e. how to recognise and analyse creativity in songs, music, TV drama, film, emoji, and more.

This paper aims to demonstrate how transfer of learning can be facilitated through the analysis of multimodal creativity in social media posts. It is structured as follows: this section introduces some current issues and inadequacy in addressing transfer of learning in the study of digital creativity, multimodality, multimodal creativity and creativity in general. The second section reviews literature on the development of multimodal analysis through a semiotic approach and categorises it into three phases – its formation in the 1980s and 1990s, the intersemiosis in the 2000s, and the application in digital multimodality in the post-2010s. The third section discusses the Analytical Framework for Creativity in Multimodal Texts (AFCMT) in brief and introduces the cline of creativity (CCC). The fourth section simplifies the AFCMT for teaching and learning purposes by encapsulating the essence of the framework into five comprehensible questions, which are then used in the fifth section for the digital creativity multimodal analysis (DCMA) of three selected social media posts from Hong Kong. The final section concludes by offering some suggestions on how to maximise learning transfer in digital literacy.

Background of multimodal analysis

The 1980s and 1990s: The formation

Multimodality and its analysis have long been linked with systemic functional linguistics (SFL). First introduced by O'Toole (O'Toole, 1994) and Kress & van Leeuwen (2006 [1996]) (O' Halloran, 2007; O'Halloran et al., 2010), the multimodal analysis draws upon Halliday's (1978; 1985; Halliday & Matthiessen, [1985] 2014) socio-semiotic theory, also known as the systemic functional (SF) theory (Knox, 2009; O'Halloran, 2007; Martin & White, 2005), in which he posits that language is a social semiotic resource for

"meaning making" (Halliday, 1978, p. 192) and that it is *functional*, *semantic*, *contextual* and *semiotic*. Although the theory primarily focuses on language or text as object of analysis (Knox, 2009; Pang, 2004), it is applicable to non-linguistic resources as 'text' is basically a metafunctional construct comprises of ideational, interpersonal, and textual meanings (Halliday, 1985, p. 48; Royce, 2007a, pp. 65-66), thus "they apply to all semiotic modes, and are not specific to speech or writing" (Kress & van Leeuwen, 2006 [1996], p. 42).

Perhaps the earliest and one of the most crucial publications is O'Toole's (1994) *Language of Displayed Art*, in which he applies Halliday's social semiotic framework for language to visual art. He analyses elements of paintings and sculptures through three new basic functions, namely representational, modal/interactive, compositional/formal while referring back to Halliday's experiential, interpersonal and textural metafunctions for architecture analysis (O'Toole, 1994; Keefer, 1996). This separation of the new functions from Halliday's original concept is not without challenges. Keefer (1996), in particular, questions the need for O'Toole's (1994) differentiation of functions across genres when Halliday's metafunctions already provide sufficient theoretical coverage.

In another seminal work *Reading Images: The Grammar of Visual Design*, Kress & van Leeuwen (2006 [1996]) take a different approach from O'Toole's (1994). Rather than differentiating from Halliday's theoretical notion of metafunctions, they directly map the metafunctions realised in language to that in visual images and moving pictures, that is representational (ideational), interactive (interpersonal) and compositional (textual) (Kress & van Leeuwen, 2006 [1996]). The success of this metafunctional mapping has revolutionised the field of discourse analysis by opening possibilities to analysing resources beyond language (O'Halloran, 2008). Henceforth, the 'premises' of SF theory coverage has expanded

steadily on the influx of enthusiasm (Baldry & Thibault, 2006; O'Halloran, 2008), providing frameworks and terminologies for describing meanings generated by a wide range of semiotic resources (Kemlo, 2008; O'Halloran, 2007) including language (Halliday & Matthiessen, [1985] 2014; Martin & White, 2005), dynamic media such as film and video (Kress & van Leeuwen, 2006 [1996]; O'Halloran, Tan, Smith, & Podlasov, 2010), film discourse (Baldry & Thibault, 2006; Bateman & Schmidt, 2012), visual images (O'Toole, 1994; Kress & van Leeuwen, 2006 [1996]; Royce, 2007a), movement and gesture (Martinec, 1998; 2000; 2001), music and sound (van Leeuwen, 1999). Collectively, the study of semiotic resources of various modes is known as 'multimodality', and the analysis of the multimodality based on Halliday's SF theory is known as systemic functional multimodal discourse analysis (SFMDA) (O'Halloran, 2007).

The 2000s: The intersemiosis

The development of SFMDA from then onwards has taken several paths with main focuses on "theoretical and methodological issues (mode hierarchies, modelling semiotic resources as multiple semiotic systems, multimodal corpus annotation)" involving static, dynamic and interactive resource types while covering broad spectrum of disciplines such as entertainment, education, architecture, medicine, translation (Ventola, Charles, & Kaltenbacher, 2004, p. back cover), visual design, displayed art, mathematics, hypermedia (O'Halloran, 2011), computational linguistics, ideology, and media discourse (Royce & Bowcher, 2007).

Perhaps one of the most influential theoretical and descriptive contributions within the last decade, one that has taken

SFMDA research to yet another dimension, is the Appraisal Framework by Martin and White (2005). Building upon SFL frameworks, it focuses on the interpersonal meaning construed in a form of "attitudinal evaluations" (p. 2) called Appraisal (Attitude, Engagement and Graduation), which is complemented by Negotiation and Involvement at the discourse semantics level. Also, because "all texts are multimodal" (Kress & van Leeuwen, 1998, p. 186), the Appraisal description allows access to details of "the relationship between multimodal discourse, knowledge construction, identity, and affiliation" (Djonov & Zhao, 2014, p. 4).

The second half of the year 2000 marks the awareness of an overwhelming enthusiasm in research on realisation of meanings in modes and a lack of studies in intersemiotics between modes (Royce, 2007a; Royce & Bowcher, 2007). Also calling for more emphasis on applicative research was the theoretical-based multimodal corpus linguistics (Baldry & Thibault, 2008), as Jewitt suggests (2009, p. 12), "multimodality, it could be argued, strictly speaking, refers to a field of application rather than a theory." Therefore, the scholars who observed these phenomena, including Kress and van Leeuwen (2006 [1996]), Baldry and Thibault (2006; 2008), Royce (2007a), Bateman (2007; 2008), O'Halloran (2008), Unsworth (2008) and Jewitt (2009), took initiatives and extended efforts in filling in the niches.

O'Halloran and Smith (2011), having expanded on Kress's (2009, p. 54) concept of multimodality as "a domain of enquiry", propose a 'two-senses-one-continuum' (Hyland & Paltridge, 2011) characterisation for the field of multimodal studies,

> *"In the first sense, multimodal studies applies existing generalisations (of theory, description, methodology) to the exploration of specific multimodal phenomena, sets of texts or contexts in order to cast new light on those domains.*

In the second sense multimodal studies ... use texts or types of text to explore, illustrate, problematise, or apply general issues in multimodal studies, such as those arising from the development of theoretical frameworks specific to the study of multimodal phenomena, or methodological issues (including challenges in transcription, analysis and representation within publications)...

...as a continuum, two different orientations – focus on general theoretical and methodological issues, or on specific domains of study – representing poles along which individual works range in terms of their major concerns."

(O'Halloran & Smith, 2011, pp. 2-3)

The post-2010s: The application in digital multimodality

Recent studies since 2010 have been somewhat motivated by the effort made in pushing for applicative intersemiotics in previous years with the likes of multimodal concordances applications, digitalised multimodal texts (films, websites or printed materials), multimedia language tests, multimodal tests (Baldry & Thibault, 2008). Education has been a strong driving force behind SFL and MDA development and the importance of multimodal resources in teaching and learning has been well-recognised in research in educational context (Royce, 2007b; Christie, 2005; Christie & Martin, 2007; Heberle & Abreu, 2012; Unsworth, 2013; Guo & Feng, 2015). Digital multimodality therefore naturally falls into the most popular research subject category. Coffin (2013) looks at interactive meaning-making processes in online discussion forums and virtual 3D worlds used for pedagogical purposes while Zhao (2012), in her doctoral thesis, develops a logogenetic model for

SFMDA to yield five types of intersemiotic patterns between words and images on web-based multimodal learning materials, or multimodal interactives in primary school social science. In the area of news/journalism-related intersemiotics in multimedia, Bednarek and Caple (2012) introduce a new *Balance Framework* for analysing language, image and their interaction in news stories in English worldwide. Caple (2013) alone goes one step further to analyse images and the interactivity between news discourse and photographs using a social semiotic approach. However, despite these efforts in digital multimodality research, few have looked at the myriad creativity within (Law, 2019), and even fewer have proposed analytical frameworks designed from a creativity user's perspective.

Analytical Framework for Creativity in Multimodal Texts (AFCMT) in brief

Law's (in press) AFCMT is one of the rare assessment models that can be applied to linguistic creativity, multimodal creativity and creativity in general. While it is based on SFL, the analytical framework requires no prior knowledge of the theory, which makes it a good candidate for teachers and students to apply. It consists of two components: the IEEE matrix (which stands for Implicit and Explicit, Endo-referenced and Exo-referenced), and the CCC (which stands for the cline of creativity complexity) (Law, 2018).

The IEEE matrix is the combined product of two major concepts: Carter's (2004) hypothesis of creativity in applied linguistics, and Halliday's (1967) information status in SFL. Carter's hypothesis of creativity posits that all instances of creativity fall under two main choices: *pattern-reforming creativity* and *pattern-forming creativity*. Pattern-reforming creativity occurs when pattern

is the broken from norms and rules, and is then reformed and reshaped. Pattern-forming creativity occurs when pattern is formed while conforming to norms and rules, creating symmetry or repetitions. Law argues that regardless of the pattern-reforming or pattern-forming process, there must be observable formulas that govern the process of construction and they are either *explicit* or *implicit*. When a *formula of creativity construction* is explicit, the creativity creator literally provides the creativity target with a 'walkthrough' of how the creative instance is produced. On the contrary, when a formula is implicit, the creator holds back crucial information on the formula of creativity construction. Halliday's (1967) information status is either *given* or *new*. The information status can be determined by answering the question, 'is this information recoverable within the preceding or same text?' If the answer is yes, the information status is *given*, or *new* if otherwise. Law adopts this concept and describes *the reference style of creativity* that is *given* as *endo-referenced*, and creativity that is *new* as *exo-referenced*.

Together, implicit, explicit, endo-referenced and exo-referenced form the core of the IEEE matrix: two 2 x 2 arrays with implicit and explicit as headers of two rows, and endo-referenced and exo-referenced as headers of two columns; as pattern-reforming creativity and pattern-forming creativity each has its own 2 x 2 array, there are a total of eight different elements or entries in the entire matrix. The entries of the IEEE matrix are satisfying conditions with respect to the type of creativity, the implicitness / explicitness of formulas of construction and the reference style, as reproduced in Table 1.

Table 1 Analytical Framework for Creativity in Multimodal Texts (AFCMT)

| Types of creativity	Formula of construction	Reference style	
		Exo-referenced	Endo-referenced
Pattern-forming	Implicit	Direct use / quoting of external resources such as famous lines, quotes, speeches, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues without explicit citation of the source and explicitly showing the formula of repetition (Assumed).	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it without explicitly showing the formula of repetition (Assumed).
	Explicit	Direct use / quoting of external resources such as famous lines, quotes, speeches, sayings, idioms, metaphor, song lyrics, classic paintings, movie scenes and dialogues by explicit citation of the source by explicitly showing the formula of repetition (Known).	Repeating / playing along with existing resource / someone's creation to the user or witnesses of such use of it by explicitly showing the formula of repetition (Known)
Pattern-reforming	Implicit	Direct creation of New / neologism without explicit citation / indication of the source and explicitly showing the formula of creation (Assumed).	Direct creation of New / neologism using existing resources without explicitly showing the formula of creation (Assumed)
	Explicit	Creation of New / neologism by explicit citation / indication of the source and by explicitly showing the formula of creation (Known).	Creation of New / neologism using existing resources and by explicitly showing the formula of creation (Known).
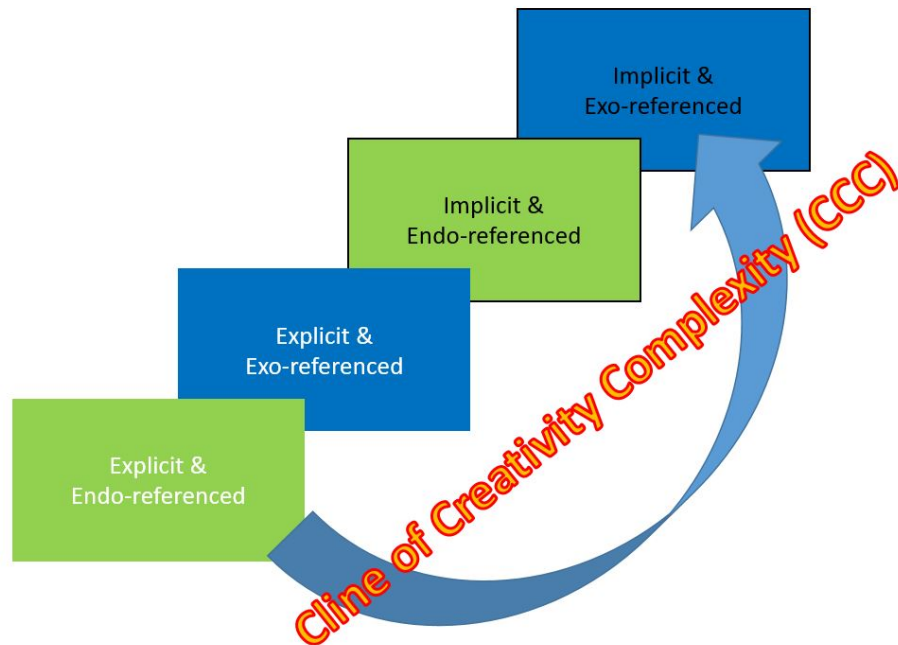
Figure 1 Cline of Creativity Complexity (CCC)

From the IEEE matrix, Law (2018) further defines four IEEE types of creativity, listed in an increasing level of creativity complexity: explicit & endo-referenced, explicit & exo-referenced, implicit & endo-referenced, and implicit & exo-referenced. These four IEEE types rest on the CCC (see Figure 1). The categorization of IEEE types of creativity in AFCMT helps to explain the complexity in understanding creativity in terms of explicitness and reference type.

The complexity in understanding creativity is clinal. Explicit creativity is at a lower position along CCC than implicit creativity as it requires less mental effort in decrypting the formula of creativity construction. Endo-referenced creativity is at a lower position along the CCC than exo-referenced creativity as the reference is

recoverable from preceding discourse and thus requires less prior knowledge of the reference involved. From the above understanding of the effect of explicitness and reference type on the complexity of creativity, four combinations of IEEE type of creativity can be represented on the CCC. Explicit & endo-referenced creativity is the easiest to comprehend and so it occupies the lowest end on the CCC (or *CCC level 1* in short), followed by explicit & exo-referenced creativity which is higher up the cline (*CCC level 2).* Implicit & endo-referenced creativity is the second highest along the CCC (*CCC level 3*), while implicit & exo-referenced creativity takes the highest spot (*CCC level 4*).

While the intention of applying certain IEEE type varies, in general, creators choose explicit creativity to maximise the target's understanding by making the formula of creativity construction 'known', whereas in other situations, creators choose implicit creativity to assume or challenge the target's understanding of the formula of creativity construction.

Overall, the AFCMT is a framework that binds important concepts of creativity together, making it a robust tool for DCMA. Still, the original description is tailored for researchers and simplification is necessary for the framework to be transferrable for teaching and learning. In the next section, I will encapsulate the essence of the AFCMT into several simple questions to make it more approachable to general creativity users.

Simplifying AFCMT for teaching and learning

Social media is a big part of Generation Y and Z's life, and adopting them in teaching and learning can be highly content relevant and therefore beneficial in terms of the understanding of learning, the

transfer applicability and eventually the transfer outcome. Social media posts can be creative in many ways. A social media post may consist of text, punctuations, pictographs (emoji, emoticons), images (photographs, GIFs, infographics), videos, and any combinations of the above modes.

Chase Jarvis's Twitter post: An exemplar of digital multimodal creativity

For demonstration purpose, let's consider a social media post with text, a photograph and emoji, shared by Chase Jarvis – an award-winning photographer, director, artist, educator, and founder/CEO of CreativeLive – on his personal Twitter page (see https://twitter.com/chasejarvis/status/1041500744980082688). Chase Jarvis's Twitter has nearly 407,000 followers and 170,000 followers on his CreativeLive Twitter account.
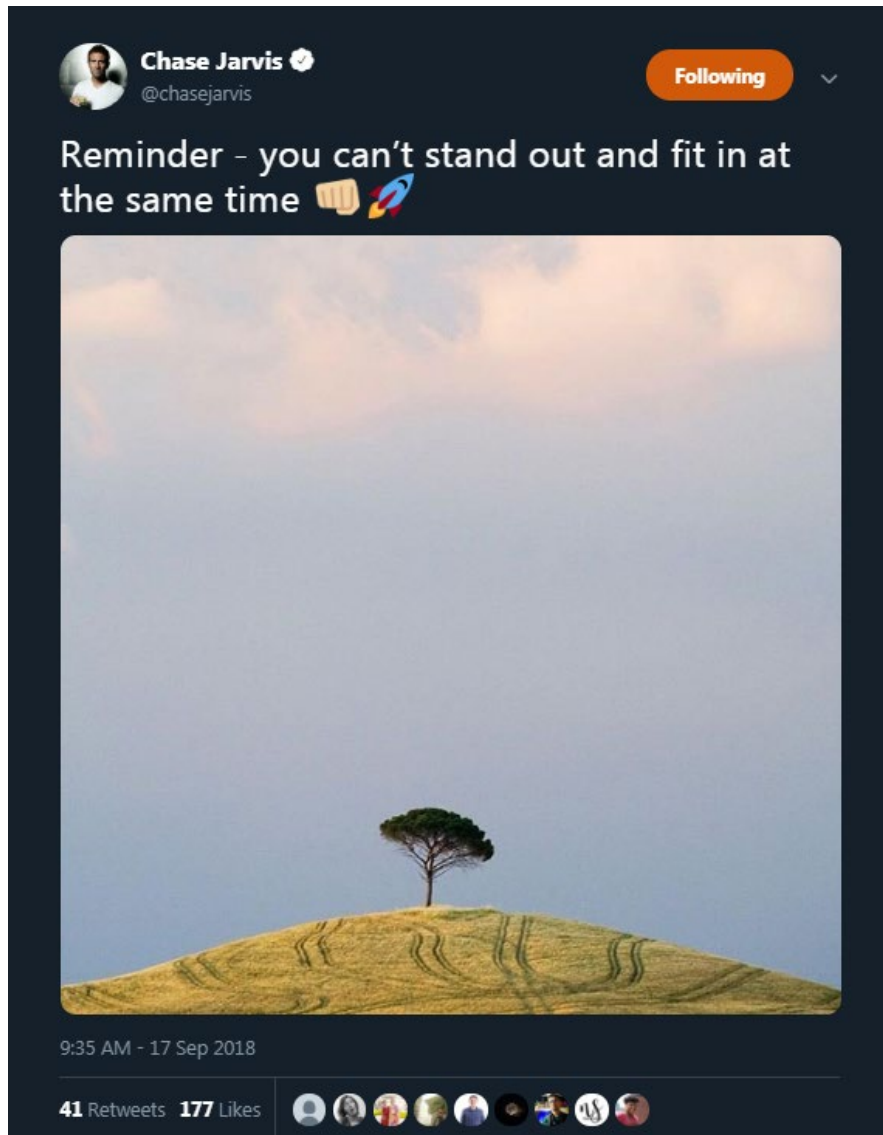
Figure 2 A Twitter post by Chase Jarvis

The first question to ask when analysising a social media post is, "is there any reforming or forming of patterns if only a single mode is considered, and if different modes are considered together?" For this particular example, we ask,

a) Is there any reforming or forming of patterns if you consider ...
   a. only the text,
   b. only the image,
   c. only the emoji,
   d. any combinations of text, image and emoji?

Answer: The answer to question 1 a, b, c, and d are 'no', 'no', 'no', and 'yes' respectively. Because there is a 'yes', we continue to ask questions 2, 3, 4, and 5.

b) What and how is the pattern created? Try to explain.

Answer: The creative pattern is of a forming nature. It is formed between text and image. 'Stand out' and 'fit in' are two contrastive concepts that are made visible when the image is considered, which means that both 'stand out' and 'fit in' are repeated: once in the form of text, and once in the form of image. Specifically, there is only one tree grown on top of a grassy, tyre-tracked hill against a plain pinkish blue background, which is a representation of 'stand out' and the inability to 'fit in' with the rest of the grass on the hill. The meaning that is made in the image resonates or repeats with the same meaning provided in text, or vice versa, hence an instance of pattern-forming creativity.

c) Does the instance of creativity make reference to a source which is recoverable within the preceding or same 'text' (i.e. the preceding social media posts within the same thread or within the same social media posts) ? If 'yes', it is endo-referenced, else it is exo-referenced.

Answer: Yes. This particular instance of creativity makes reference to a source within the same social media post. Specifically, 'stand out' and 'fit in' in text are referenced to 'stand out' and 'fit in'

in the image, both belong to the same social media post. Therefore, this instance of creativity is endo-referenced.

    d) Is the formula of creativity construction shown explicitly? If 'yes', it is explicit, else it is implicit.

Answer: The formula of creativity construction is presented in a non-explicit way. This is because the creator (i.e. Chase Jarvis) has not explicitly mentioned to the targets (i.e. his Twitter post viewers) how to read the image and extract the message of 'stand out' and 'fit in' from the image which are the key elements of repetition in the formula of creativity construction. Therefore, the formula of creativity construction is implicit.

    e) Where should this be in the Cline of Creativity Complexity (CCC)?

Answer: Because this instance of creativity has an implicit formula of creativity construction and an endo-referenced reference style, it is an instance of implicit and endo-referenced (pattern-forming) creativity. It is therefore second highest on the CCC, or *CCC level 3*, requiring a high level of mental effort in decrypting the meaning that the creator intends to make.

Through answering these five questions, general users of multimodal creativity can apply the AFCMT to their teaching, learning, and analysis in a simple yet systematic way, thus achieving good instructional design that facilitates the understanding of creativity.

The above example is an exemplar of a single creative instance that requires interpretation of both text and image. In the next section, we will demonstrate how AFCMT is capable of handling instances of multi-level or nested creativity by analyse other three complex examples using AFCMT in detail while introducing new situations and challenges in each one. The first example will focus

on the textual embeddedness of nested creativity in one popular neologism on social media during the period of 2017 Hong Kong Chief Executive election. The second example looks as the interactions of multimodal creativity within a social media post that consists of text and panels of manga. The last example illustrates the multimodal creativity within a re-creative faux-movie poster that went viral after Super Typhoon Mangkhut hit Hong Kong in September 2018.

Analysing multimodal creativity in social media posts

"Re-creativity" as political satire in Hong Kong: Cantopop song title neologistically retitled

Undeniably, social media has been one of the strongest, if not the strongest, driving force in homemade creativity and "re-creativity" among young people. The widespread ownership of computers and mobile devices on a global scale has facilitated the significant growth in the number of videos and images shared on the Internet. In order to demonstrate the flexibility of the proposed analytical framework for creativity in multimodal texts, the following example is taken from social media from the Hong Kong context.

The importance of social media to the people of Hong Kong is attributed to the language use and information technology usage. In Hong Kong, Cantonese is the first language of around 90% of the population (Census and Statistics Department, 2017) and it is used in both formal and informal settings in verbal communication. While traditional Chinese characters are the official logographs used in the city (GovHK, 2017), written Cantonese is also commonly used on social media. As for English, it is used as an official language by the executive authorities, legislature and judiciary (GovHK, 2008) and is

used by 53.2% of the population (Census and Statistics Department, 2017). In terms of Information Technology usage, the Household broadband penetration rate and Fibre-to-the-home / building (FTTH/B) household penetration rate as of October 2018 is 92.8% and 73.9% respectively (OFCA, 2019). Mobile subscriber penetration rate as of September 2018 is 256.7%, which is equivalent to 19,124,197 subscribers (OFCA, 2019).

Figure 3 葡萄X淑儀 Song and artwork

The first example is the neologism '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina', see Figure 3). It has been one of the most influential instances of creativity during the period of 2017 Hong Kong Chief Executive election as it has not only triggered other instances of "re-creativity" from social media, but also attracted attention from local newspapers (Apple Daily, 2016a; ET Net, 2017), web media (Coconuts Hong Kong, 2016) and even the German Consulate General Hong Kong, a diplomatic mission in Hong Kong (German Consulate General Hong Kong,

2016; Apple Daily, 2016b). The term '葡萄乘淑儀 / 葡萄 X 淑儀' was first created and shared on HKGalden.com by netizen cheksiuting 葉瘤花生之友 (cheksiuting, 2016) as the title of his rewritten-lyrics song of which the original song *葡萄成熟時* (2005) is written lyricist Wyman Wong and sung by Hong Kong singer Eason Chan Yick-shun (Rainsun, 2015). The 're-lyrics' song is about then-Legislative Council (LegCo) member Ms. Regina Ip Lau Suk-yee's campaign in running for the 2017 Hong Kong Chief Executive election. It describes a series of events happened to Ip during this period using lyrics in written Cantonese (see https://youtu.be/m5GCpHBljCI, (Chow & Cheung, 2016)).

The term '葡萄乘淑儀 / 葡萄 X 淑儀' itself is an instance of pattern-reforming creativity as well as pattern-forming creativity. It is pattern-reformingly creative because when considered as a noun phrase, which is a nickname for Regina Ip, it is a completely new and unique word in the Canto-Chinese lexicon. This neologism is formed from a blend of noun '葡萄' ('grape'), transitive verb 'X' (short form of 'cross' or 'crossover', meaning , which is also a mathematical operator that has the Chinese translation of '乘') and proper noun '淑儀' ('Regina (Ip)'). Each of these three parts originates from different sources and thus carries different meanings. The noun '葡萄' ('grape') is taken from the Chinese version of the expression 'sour grapes' ('吃不到的葡萄是酸的') which is originated from the Aesop's fables *The Fox and the Grapes (狐狸與葡萄)*. The term '葡萄' ('grape') can also act as an adjective and carries the same meaning as the expression ' sour grapes', which is "used to refer to an attitude in which someone adopts a negative attitude to something because they cannot have it themselves" according to Oxford English Dictionaries. The transitive verb 'X' or '乘' is from 'cross' or 'crossover' borrowed from 'crossover' marketing strategy, meaning to "generate new brand or product by

uniting with two brands in different areas. ” (Ji & Shen, 2013, p. 1364) The proper noun '淑儀' ('Regina (Ip)') is present as she is the main subject of this pattern-reforming creativity. Packing all three meanings together, the neologism represents a term used in shaming LegCo member Regina Ip who, during the period as a candidate of the 2017 Hong Kong Chief Executive election, had shown a negative attitude towards other more popular candidates because she had failed to achieve a comparative level of popularity. This instance of pattern-reforming creativity is implicit – as it has not mentioned explicitly the formula for the creation of neologism and the target is assumed to be able to discover it; and exo-referenced – because it is without explicit citation of any internal sources. At this point of discussion, this instance of implicit and exo-referenced pattern-reforming creativity is therefore on the highest CCC level 4, requiring the highest level of mental effort as well as background knowledge of multiple external references in order to be able to decrypt the meaning that the creator intends to make.

This neologism is also a pattern-formingly creative one. This becomes apparent when asked the question why the neologism can only be '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina') and not the reverse '淑儀乘葡萄 /淑儀 X 葡萄' (literal translation: 'Regina crossover grapes'). The answer lies in in the formula of construction of this instance of creativity in relation to the Cantopop song.
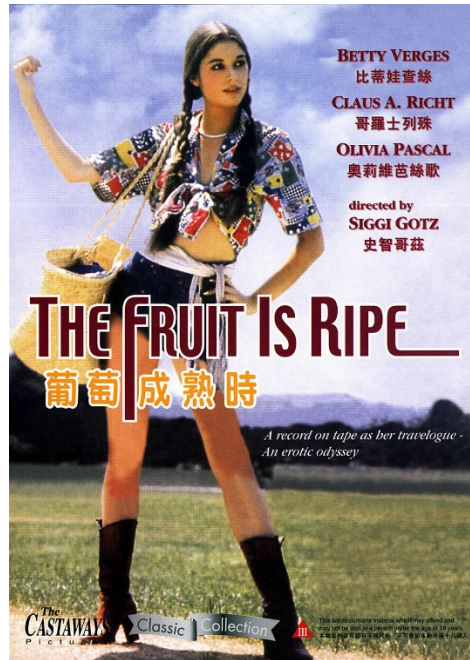
Figure 4 The Fruit Is Ripe (1977) video disc cover with traditional Chinese title

Firstly, the lyrics of the song 葡萄乘淑儀 / 葡萄 X 淑儀 (literal translation: 'grapes crossover Regina') by netizen cheksiuting 葉瘤花生之友 (cheksiuting, 2016) has included the name of the original song 葡萄成熟時 (literal translation: 'the grapes are ripe') and the nickname of the singer 吹神 (referring to Hong Kong singer Eason Chan Yick-shun) in his 're-lyrics', therefore, it is an instance of pattern-forming creativity with a formula of construction that is made explicit and to a source that is exo-referenced. This puts this instance of explicit, exo-referenced pattern-forming creativity on CCC level 2.

Secondly, the neologism '葡萄乘淑儀 / 葡萄 X 淑儀' (literal translation: 'grapes crossover Regina', LSHK Cantonese syllables: pou4 tou4 sing4 suk6 ji4) actually rhymes with the title of a

Cantopop love song '葡萄成熟時' (literal translation: 'the grapes are ripe', LSHK Cantonese syllables: pou4 tou4 sing4 suk6 si4) by lyricist Wyman Wong, differing only by the initial sound of the final Chinese character when they are read in Cantonese, showing that even the title is an instance of pattern-forming creativity that is explicit and exo-referenced. Again this instance of explicit, exo-referenced pattern-forming creativity lies on CCC level 2.

Lastly, tracing back yet another level of creativity, lyricist Wyman Wong of the original Cantopop '葡萄成熟時' (literal translation: 'the grapes are ripe') named the song after the Cantonese/ Chinese translation of the English name of a German movie *The Fruit Is Ripe* (1977) (original title in German: *Griechische Feigen*, see Figure 4), therefore, creating an instance of implicit and exo-referenced pattern-forming creativity. From this perspective of analysis, this instance of implicit and exo-referenced pattern-forming creativity is again on the highest CCC level 4.

Overall, this example consists of a total of four instances of creativity – two CCC level 2, and two CCC level 4 pattern-forming and pattern-reforming creative instances – stemming from one single neologism with no less than seven different exo-references interlinked with one another in multiple levels (i.e. 'grape', 'crossover', 'Regina Ip', 'sour grapes' from the Aesop's fables *The Fox and the Grapes*, situation from the 2017 Hong Kong Chief Executive election, the name of the original Cantopop song, the German movie titled *The Fruit Is Ripe).* The complexity of the creativity construction makes this widely-adopted social media neologism highly demanding for targets to interpret and understand fully, but also a great exemplar of how much creativity can be packed in one single neologism.

*Ten Billion Negative Power Fighter: Dragon Ball Z manga parody
by a Hong Kong's Facebook comic artist*

Figure 5 Ten Billion Negative Power Fighter: A Dragon Ball Z manga parody

The second example, shown in Figure 5, is taken from a Facebook page named *100 億負能量戰士@negativepowerfighter* (page name directly translates as '10 Billion Negative Power Fighter', see https://www.facebook.com/negativepowerfighter/photos/a.15182785 08246493/1751530668254608/), which has over 17,000 followers. The author aims to use this page as a platform to release negative energy from the workplace through sharing parody versions of the Dragon Ball Z manga strips. This post was posted on 4th January 2018 with a caption in traditional Chinese text that translates to, "When the business is good, it is inevitable that the global economy will get worse next year. When the business is not good, (the global economy) will definitely be worse next year, so you had better not ask for pay rise nor bonuses."

Below the caption was an image of a three-panel re-creative manga featuring an office-worker version of Vegeta (a white-collar employee) and Freeza (a white-collar employer) from the original Dragon Ball Z manga. The first panel shows the back of Freeza addressing some employees including a serious-looking Vegeta who is facing the viewers. "Last year… (Freeza said,) "Colleagues, Since the company's business is not satisfactory this year, I hope that everyone can tide over present hardship together with the company by freezing your salary for a year."" The second panel shows a similar scene with slight differences, "This year... (Freeza said,) "Although the company's business performance was satisfactory last year, I expect that Hong Kong's economy will deteriorate in the next year, as a precautionary and pre-emptive measure, (your) salary..."" An angry, teeth-gritting Vegeta with visible veins on both sides of his forehead thought to himself, "no pay rise again?" In the last panel, the scene is moved to a car park where Vegeta thought to himself, "! Boss switched to a new car!" while looking at a shiny new car beside his own dirty car with cracks, trembling, with visible veins on the right side of his forehead.

From this social media post, we can see that there are several instances of creativity involved. These include

a) the reforming and forming of the Facebook page title in tradition Chinese *100 億負能量戰士*'10 Billion Negative Power Fighter' from the original Dragon Ball Z movie name translated from traditional Chinese *100 億能量戰士*'10 Billion Power Fighter'(pattern-reforming creativity and pattern-forming creativity),

b) the resonance of the caption with the text in the image (pattern-forming creativity),

c) the adoption of characters and vehicles from the original Dragon Ball Z characters (pattern-forming creativity), as well as the re-creative characters and vehicles from the original Dragon Ball Z characters (pattern-reforming creativity),

d) the similarities between panel 1 and panel 2 in the texts and images (pattern-forming creativity), as well as the differences between panel 1 and panel 2 in the texts and images (pattern-reforming creativity).

In a), the Facebook page title makes an exo-reference to one of the original Dragon Ball Z movie names that has not been explicitly mentioned to the page visitors, therefore, it is an instance of implicit, exo-referenced pattern-reforming and forming creativity, with a creativity complexity level of CCC level 4. In b), the resonance of the caption with the text in the image, thanks to repetitions of many keywords, has a formula of creativity construction that is simple and obvious enough to be considered as explicit. As both the caption and the text are found within the same post, this instance of pattern-forming creativity is an explicit, endo-referenced one that is on CCC level 1. In c), the adoption and re-creativity of characters and vehicles is an exo-reference because the original characters were created by Japanese manga artist Akira Toriyama, which is outside the context of the social media post or

the Facebook page. The formula of creativity construction is explicit enough for readers to tell that the original Dragon Ball Z characters, namely Vegeta and Freeza, are not playing their usual role in the original manga or movie, but new roles as the employee and the employer respectively. Therefore, this is an instance of explicit, exo-referenced pattern-forming and pattern-reforming creativity on CCC level 2. Lastly, in d), the similarities and differences in the images and texts are observable and obvious enough to be considered an explicit illustration of the formula of creativity construction. The similarities form a consistent pattern whereas the minor differences in this consistent pattern immediately reform the pattern, and because these forming and reforming of patterns occur within panel 1 and 2, this instance of pattern-forming and pattern-reforming creativity is endo-referenced, placing it on CCC level 1.

Overall, the creator has used a total of four instances of creativity – two CCC level 1, one CCC level 2 and one CCC level 4 pattern-forming and pattern-reforming creative instances – in this manga-based social media post to illustrate the frustration among the white-collar workers towards their employers in Hong Kong's workplace culture.

"Working after hurricane" movie poster parodies: post-Super Tyhpoon Mangkhut reactions from the Hong Kong netizens

Figure 6 "Working after hurricane" a faux-movie poster that went viral in Hong Kong

On 16th September 2018, Super Typhoon Mangkhut hit Hong Kong as the tropical cyclone that holds the record of "the second longest

duration of Signal No. 10 since World War II". The Signal was hoisted for 10 hours, second only to Typhoon York that lasted 11 hours. Mangkhut caused severe damages regionwide, including at least 82 deaths in Luzon, injuring more than 636 others in Luzon, Hong Kong and Macau combined, and more than 60,000 reports of fallen trees in Hong Kong alone (Hong Kong Observatory, 2018). However, due to the fact that the Typhoon Signal No. 10 was downgraded to Signal No. 8 at 7: 40pm on 16th September 2018 and subsequently to Signal No. 3 at 5:20am on 17th September 2018, most Hong Kong office workers had to return to work even when major roads were closed and public transports paralysed (Hong Kong Observatory, 2018). Communities have urged the Hong Kong government to order a day off on 17th September 2018 (Cheng, 2018a), only to have the Chief Executive Carrie Lam advising employers to be take "considerate and flexible" measures (Cheng, 2018b).

The last example is shown in Figure 6, an image of a faux-movie poster shared by netizen Pluto Mak on a Facebook group page which went viral on the internet (The Standard, 2018). The image consists of some written traditional Chinese and English texts with fonts typically seen in a contemporary movie poster in Hong Kong, overlaying a vignetted photograph taken on Kennedy Road on 17th September 2018 of a man in a white shirt and dark-coloured trousers carrying his backpack and standing in front of an unknown number of fallen trees (Cheng, 2018c). From top to bottom, a translation of traditional Chinese texts together with English texts are as follows:

" Embark on this endless journey

HEADING TO WORK Working after hurricane

Starring   Hong Kong employees

September 17

The entire city goes to work
MANGKHUT presents

A FILM BY HONGKONG PEOPLE, "WORKING AFTER
HURRICANE", HONGKONG EMPLOYEES
written by THE POOR GUY, directed by HONGKONG
GOVERNMENT, cp-producer MTR CORPORATION"

From this example, we can extract the following instances of creativity:

i.   the reforming of pattern from the original photograph to a faux-movie poster (pattern-reforming creativity),
ii. the forming of pattern between the layout of text, font types and sizes with a typical contemporary movie poster in Hong Kong (pattern-forming creativity),
iii. the reforming of pattern from the substitution of the movie production company and team members' names by names of parties involved in the typhoon situation (pattern-reforming creativity).

In i), the original photograph is reformed by adding vignette and various movie poster-style elements in order to create that realistic movie poster perception from the viewers; however, this information on the formula of creativity construction is not explicit. The creator assumes a level of prior knowledge and experience with movie poster elements from the targets, which is not given in the image itself. Therefore, this instance of pattern-reforming creativity is implicit and exo-referenced, and it is on CCC level 4. Like i), the creator has not been explicit about how the layout of text, font types and sizes are used to create a realistic movie poster-like appearance in ii), targets are assumed to possess adequate knowledge in interpreting how such layout of text, use of font types and sizes work coherently to form and construct an appearance of what a

contemporary movie poster should look like, thus this instance of pattern-forming creativity is implicit and exo-referenced, which equates a CCC level 4 difficulty. In iii), the texts make several explicit uses of words related to movies, such as '…presents', 'A film by', 'written by', 'directed by', 'cp-producer', making the formula of creativity construction of this pattern-forming creativity an explicit one. However, because many nominal groups are external references which cannot be found within the same image, such as 'Hong Kong employees', 'HongKong people', 'Working after hurricane', 'The Poor Guy', 'Hong Kong government', and 'MTR corporation', and each one of them carrying certain specific cultural information ('Hong Kong employees' follow closely to their employers' instructions, 'Hong Kong people' are commonly known as very hard working, 'Working after hurricane' is a generally tiring, unwilling, chaotic, and difficult, 'The Poor Guy' rhymes with a Cantonese slang word 仆街, LSHK Cantonese syllables: pok1 gaai1, which means 'The jerk', 'Hong Kong government' refused to order a day off on 17th September 2018, and "MTR Corporation" is the largest public railway transport operator in Hong Kong), this creative instance is an explicit, exo-referenced pattern-forming creativity, which is CCC level 2.

Overall, the creator has used a total of three instances of creativity –one CCC level 2 and two CCC level 4 pattern-forming and pattern-reforming creative instances – in this faux-movie poster from a widely-shared social media post to depict the frustration of the Hong Kong employees towards employers and the local government.

Conclusion

Upon the completion of analysis on relevant and transferrable examples of social media posts using the straightforward AFCMT, educators should move on to addressing transfer specificity by specifying or eliciting from learners how the same analytical procedures can be applied to other examples on social media from other cultural settings, or examples from other genres entirely. For instance, how can AFCMT be used to perform DCMA on posts with various 3 x 3 and 3 x 4 Instagram grid layouts (see https://thepreviewapp.com/7-types-instagram-grid-layouts-planner-tips/), or scenes from TV dramas and movies, or even company logos (Law, in press) and comic books (see Veloso, & Bateman, 2013)?

All in all, this paper has discussed the paucity of research work in digital creativity, causing a severe lack of pedagogical references and direction in related teaching and learning. It has then made suggestions on enhancing the transfer of learning in digital and multimodal creativity literacy by strengthening instructional design, content relevance and transfer specificity. Using carefully selected, content relevant examples from social media leading to transfer specific guidelines for other genres, this paper has demonstrated how the AFCMT can be a highly useful tool in achieving good instructional design, which in turn enhances the transfer of learning. More specifically, this paper has shown how the IEEE matrix is used to describe the CCC, providing a basic model of systemic description for the clinal nature of creativity complexity. This paper has also revealed the flexibility of the IEEE matrix, CCC and AFCMT as a whole in terms of its potential incorporative power with theories, hypotheses or frameworks of other research approaches from various disciplines.

References

Anderson, H. H. (1959). *Creativity and its cultivation.*

Apple Daily. (2016a, 12 13). *葡萄 X 淑儀寸財爺：辭職唔係咁簡單 要有諮詢*. Retrieved from 特首選戰 2017 - 【特首選戰】: http://ce2017.appledaily.com.hk/articles/1_56042609

Apple Daily. (2016b, October 30). *葡萄 X 淑儀　德國佬都抽水添*. Retrieved from 蘋果日報: http://hk.apple.nextmedia.com/news/art/20161030/19817115

Baldry, A., & Thibault, P. J. (2006). *Multimodal Transcription and Text Analysis: A multimedia toolkit and coursebook.* London: Equinox.

Baldry, A., & Thibault, P. J. (2008). Applications of Multimodal Concordances. *Hermes – Journal of Language and Communication Studies*, 11-41.

Baldwin, T., & Ford, J. K. (1988). Transfer of training: a review and directions for future research. *Personnel Psychology, 41*, 63-105.

Bateman, J. A. (2007). Towards a grande paradigmatique of film: Christian Metz reloaded. *Semiotica, 167*(1-4), 13-64.

Bateman, J. A. (2008). *Multimodality and Genre: A Foundation for the Systematic Analysis of Multimodal Documents.* Hampshire: Palgrave Macmillan.

Bateman, J. A. (2013). Hallidayan systemic-functional semiotics and the analysis of the moving audiovisual image. *Text&Talk, 33*(4-5), 641-663.

Bateman, J. A., & Schmidt, K.-H. (2012). *Multimodal film analysis: how films mean.* London & New York: Routledge.

Bednarek, M., & Caple, H. (2012). *News Discourse.* London & New York: Continuum.

Blair, G. M. (1949). The content of educational psychology. *Journal of Educational Psychology, 40*(5), 267-274.

Bock, Z. (2016). Multimodality, creativity and children's meaning-making: Drawings, writings, imaginings. *Stellenbosch Papers in Linguistics Plus, 49*, 1-21. doi:10.5842/49-0-669

Boden, M. A. (1994). What is Creativity? In M. A. Boden (Ed.), *Dimensions of Creativity* (pp. 75-117). Cambridge, Massachusetts: MIT Press.

Boden, M. A. (1998). Creativity and artificial intelligence. *Artificial Intelligence, 103*, 347-356.

Boden, M. A. (2004). *The Creative Mind: Myths and Mechanisms* (2nd ed.). London: Routledge.

Boden, M. A. (2009). Computer Models of Creativity. *AI Magazine, 30*(3), 23-34.

Caple, H. (2013). *Photojournalism: A Social Semiotic Approach.* Hampshire & New York: Palgrave Macmillan.

Carter, R. (2004). *Language and Creativity: The Art of Common Talk.* London: Routledge.

Census and Statistics Department. (2017, February 27). *Proportion of Population Aged 5 and Over Able to Speak Selected Languages/ Dialects by Year*. Retrieved March 15, 2017, from 2016 Population By-census: https://www.bycensus2016.gov.hk/en/bc-mt.html

cheksiuting. (2016, October 27). *[原創][改詞] 葡萄*淑儀*. Retrieved from 香港膠登 HKGalden: http://hkgalden.com/view/384946

Cheng, K. (2018a, September 17). *Community groups urge Chief Exec. Carrie Lam to order day off for Super Typhoon Mangkhut clean-up*. Retrieved from Hong Kong Free Press HKFP: https://www.hongkongfp.com/2018/09/17/community-groups-urge-chief-exec-carrie-lam-order-day-off-super-typhoon-mangkhut-clean/

Cheng, K. (2018b, September 17). *Chief Executive urges employers to be considerate as damage from Typhoon Mangkhut causes delays*. Retrieved from Hong Kong Free Press HKFP: https://www.hongkongfp.com/2018/09/17/chief-executive-urges-employers-considerate-damage-typhoon-mangkhut-causes-delays/

Cheng, K. (2018c, September 18). *In Pictures: Hongkongers' post-typhoon commutes spawn memes and Photoshop wizardry*. Retrieved from Hong Kong Free Press HKFP: https://www.hongkongfp.com/2018/09/18/pictures-hongkongers-post-typhoon-commutes-spawn-memes-photoshop-wizardry/

Chow, V., & Cheung, A. (2016). 【膠登音樂台】《葡萄乘淑儀》（原曲：《葡萄成熟時》，陳奕迅） [Recorded by 小.灼]. Hong Kong, Hong Kong: T. Shek. Retrieved March 17, 2017, from https://www.youtube.com/watch?v=m5GCpHBljCI

Christie, F. (2005). *Language education in the primary years.* Sydney: University of New South Wales Press.

Christie, F., & Martin, J. (Eds.). (2007). *Language, Knowledge and Pedagogy: Functional Linguistic and Sociological Perspectives.* London and New York: Continuum.

Clark, R. E., & Voogel, A. (1985). Transfer of training principles for instructional design. *Education Communication and Technology Journal, 33*, 113–123.

Coconuts Hong Kong. (2016, December 15). *R.IP: Netizens Photoshop Regina Ip's Chief Executive campaign poster to spell out 'death' for Hong Kong.* Retrieved from Coconuts Hong Kong: https://coconuts.co/hongkong/news/rip-chief-executive-hopeful-regina-ip-mocked-online-campaign-poster-gaffe/

Coffin, C. (2013, August). Using systemic functional linguistics to explore digital technologies in educational contexts. (S. Sarangi, Ed.) *Text & Talk, 33*(4-5), 497-522.

Csikszentmihalyi, M. (1988). Society, culture, and person: A systems view of creativity. In R. Sternberg (Ed.), *The Nature of Creativity.* Cambridge, UK: Cambridge University Press.

Csikszentmihalyi, M. (1997). *Creativity: flow and the psychology of discovery and invention.* New York: Harper Collins.

Csikszentmihalyi, M. (1999). Implications of a systems perspective for the study of creativity. In R. Stenberg (Ed.), *Handbook of Creativity.* Cambridge, UK: Cambridge University Press.

Djonov, E., & Zhao, S. (Eds.). (2014). *Critical Multimodal Studies of Popular Culture.* New York: Routledge.

Drevdahl, J. E. (1956). Factors of importance for creativity. *Journal of Clinical Psychology, 12*(1), 21-26.

Drevdahl, J. E., & Cattell, R. B. (1958). Journal of Clinical Psychology. *Personality and creativity in artists and writers.*

ET Net. (2017, February 17). 《立會透視鏡－馬天娜》西環為林鄭組織「突擊隊」. Retrieved from 經濟通 ET Net: http://www.etnet.com.hk/www/tc/news/categorized_news_detail.php?category=latest&newsid=ETN270217903

Gardner, H. (2008). *Art, mind, and brain: A cognitive approach to creativity.* Madison, Wisconsin: Basic Books.

German Consulate General Hong Kong. (2016, October 29). *Word of the Week: saucer*. Retrieved from German Consulate General Hong Kong Facebook: https://www.facebook.com/GermanConsulateGeneralHongKong/photos/a.527198957480227.1073741830.500121550187968/583340511866071/?type=3&theater

Goldstein, I. L. (1986). *Training in organizations: Needs assessment, development, and evaluation.* Pacific Grove, CA: Brooks/Cole.

GovHK. (2008, March 17). *Chapter I : General Principles*. Retrieved March 15, 2017, from Basic Law Full Text: http://www.basiclaw.gov.hk/en/basiclawtext/chapter_1.html

GovHK. (2017, March 15). *Homepage (Residents)*. Retrieved March 15, 2017, from GovHK 香港政府一站通: http://www.basiclaw.gov.hk/tc/basiclawtext/

Guo, S. N., & Feng, D. Z. (2015). Infusing multiliteracies into English language curriculum: The visual construction of knowledge in English textbooks from an ontogenetic perspective. *Linguistics and Education, 31*, 115–129.

Halliday, M. (1967). Notes on Transitivity and Theme in English: Part 2. *Journal of Linguistics, 3*(2), 199-244.

Halliday, M. (1978). *Language as Social Semiotic.* London: Edward Arnold.

Halliday, M. (1985). *An Introduction to Functional Grammar.* London: Edward Arnold.

Halliday, M., & Matthiessen, C. M. ([1985] 2014). *Halliday's Introduction to Functional Grammar.* (4th, Ed.) London, New York: Routledge.

Haskell, R. (2001). *Transfer of learning : Cognition, instruction, and reasoning (Educational psychology).* San Diego: Academic Press.

Heberle, V. M., & Abreu, B. B. (2012). Investigating Multimodality: An Analysis of Students' Diary Journals. *Linguagem em Foco, 1*, 77-96.

Hong Kong Observatory. (2018). *Super Typhoon Mangkhut(1822): 7 to 17 September 2018*. Retrieved from Hong Kong Observatory: https://www.weather.gov.hk/informtc/mangkhut18/report.htm

Hyland, K., & Paltridge, B. (Eds.). (2011). *Bloomsbury Companion to Discourse Analysis.* London & New York: Continuum.

James, M. A. (2014). Learning transfer in English-for-academic-purposes contexts: A systematic review of research. *Journal of English for Academic Purposes, 14*, 1-13.

Jewitt, C. (Ed.). (2009). *The Routledge Handbook of Multimodal Analysis.* London: Routledge.

Ji, X., & Shen, H. (2013). The Research of "Crossover" Marketing Strategy. In E. Qi, J. Shen, & R. Dou (Ed.), *The 19th International Conference on Industrial Engineering and Engineering Management* (pp. 1363-1370). Berlin, Heidelberg: Springer. Retrieved from https://link.springer.com/chapter/10.1007/978-3-642-38442-4_143

Johnson, R. E. (1948). Fine Arts as a Means of Personality Integration. *The School Review*, 223-228.

Keefer, D. (1996). *Review of Michael O'Toole's The Language of Displayed Art*. Retrieved November 24, 2014, from Rhode Island School of Design: http://faculty.risd.edu/dkeefer/ldarev.htm

Kemlo, J. (2008). Different Voices? Film and Text or Film as Text: Considering the Process of Film Adaptation from the Perspective of Discourse. *MHRA Working Papers in the Humanities, 3*, 13-24.

Knox, J. S. (2009, August 21). *Multimodal discourse on online newspaper home pages: A social-semiotic perspective.* Retrieved May 8, 2013, from The Sydney eScholarship Repository: http://ses.library.usyd.edu.au/handle/2123/7696

Kontoghiorghes, C. (2002). Predicting motivation to learn and motivation to transfer learning back to the job in a service

organization: a new systemic model for training effectiveness. *Performance Improvement Quarterly, 15*(3), 114–129.

Kress, G. (2009). What is Mode? In C. Jewitt (Ed.), *The Routledge Handbook of Multimodal Approach* (pp. 54-66). London: Routledge.

Kress, G., & van Leeuwen, T. (1998). Front Pages. The Critical Analysis of Newspaper Layout. In A. Bell, & P. Garrett (Eds.), *Approaches to Media Discourse* (pp. 186-219). Oxford: Wiley Blackwell.

Kress, G., & van Leeuwen, T. (2006 [1996]). *Reading Images: The Grammar of Visual Design.* (2nd, Ed.) London and New York: Routledge.

Law, L. (2018). House M.D. and creativity: a corpus linguistic systemic functional discourse analysis approach. *PhD Thesis*. The Hong Kong Polytechnic University.

Law, L. (2019). When Creativity Meets Systemic Functional Linguistics: the Birth of an Innovative 3D Model. *Linguistics and Human Sciences, 12*(1), 25-46. doi:10.1558/lhs.29480

Law, L. (in press). Creativity & Multimodality: an Analytical Framework for Creativity in Multimodal Texts (AFCMT). *Linguistics and Human Sciences, 14*(1).

Lim, D. H. (2000). Training design factors influencing transfer of training to the workplace within an international context. *Journal of Vocational Education and Training, 52*(2), 243–257.

Lim, D. H., & Morris, M. L. (2006). Influence of Trainee Characteristics, Instructional Satisfaction, and Organizational Climate on Perceived Learning and Training Transfer. *Human Resource Development Quarterly, 17*(1), 85-115. doi:10.1002/hrdq.1162

Marchetti, L., & Cullen, P. (2016). A Multimodal Approach in the Classroom for Creative Learning and Teaching. *CASALC Review 2/2016-2017, 2*, pp. 39-51.

Martin, J., & White, P. R. (2005). *The Language of Evaluation: Appraisal in English.* Hampshire & New York: Palgrave Macmillian.

Martinec, R. (1998). Cohesion in action. *Semiotica, 120*(1-2), 168-180.

Martinec, R. (2000). Types of Processes in Action. *Semiotica,, 130*(3-4), 243-268.

Martinec, R. (2001). Interpersonal Resources in Action. *Semiotica,, 135*(1-4), 117-145.

Meer, B., & Stein, M. I. (1955). Measures of intelligence and creativity. *The Journal of Psychology, 39*(1), 117-126.

OFCA. (2019, March 12). *Key Communications Statistics*. Retrieved March 17, 2017, from Office of the Communications Authority: http://www.ofca.gov.hk/en/media_focus/data_statistics/key_stat/

O'Halloran, K. L. (2007). Multimodal Analysis and Digital Technology. In A. Baldry, & E. Montagna (Eds.), *Interdisciplinary Perspectives on Multimodality: Theory and Practice.* Campobasso: Palladino.

O'Halloran, K. L. (2008). Systemic functional-multimodal discourse analysis (SF-MDA): constructing ideational meaning using language and visual imagery. *Visual Communication, 7*(4), 443-475.

O'Halloran, K. L. (2011). Multimodal Discourse Analysis. In K. Hyland, & B. Paltridge (Eds.), *Companion to Discourse.* London and New York: Continuum.

O'Halloran, K. L., & Smith, B. (Eds.). (2011). *Multimodal Studies: Exploring Issues and Domains.* NY: Routledge.

O'Halloran, K. L., Tan, S., Smith, B., & Podlasov, A. (2010). Challenges in Designing Digital Interfaces for the Study of Multimodal Phenomena. *Information Design Journal*.

O'Toole, M. (1994). *The language of displayed art.* Cranbury: Associated University Presses.

Pang, A. K. (2004). Making history in From Colony to Nation: a multimodal analysis of a museum exhibition in Singapore. In K. L. O'Halloran (Ed.), *Multimodal Discourse Analysis: Systemic Functional Perspectives* (pp. 28-54). London, New York: Continuum.

Park, Y. H., Lim, D. H., & Chang, J. H. (2017). Trainee versus supervisor assessment of training transfer: mediational

analysis of transfer variables. *Asia Pacific Journal of Human Resources, 55*, 192-212. doi:10.1111/1744-7941.12116

Perkins, D. N., & Salomon, G. (1994). *Contribution to the International Encyclopedia of Education, Second Edition.* Retrieved December 3, 2018, from https://web.archive.org/web/20070208182842/http:/learnweb.harvard.edu/alps/thinking/docs/traencyn.htm

Pope, R. (2005). *Creativity: Theory, History, Practice.* London: Routledge.

Prensky, M. (2001). Digital Natives, Digital Immigrants Part 1. *On the Horizon, 9*(5), 1-6. doi:https://doi.org/10.1108/10748120110424816

Rainsun, L. (2015, July 24). *再來一次，何足掛齒｜林雨陽.* Retrieved from 謎米音樂: http://news.memehk.com/posts/9004

Rogers, C. R. (1954). Toward a theory of creativity. *Etc, 11*, 249-260.

Rothemund, S. (Director). (1977). *The Fruit Is Ripe (Griechische Feigen)* [Motion Picture].

Royce, T. (2007a). Intersemiotic complementarity: A framework for multimodal discourse analysis. In T. Royce, & W. L. Bowcher (Eds.), *New Directions in the Analysis of Multimodal Discourse* (pp. 63-109). New Jersey and London: Lawrence Erlbaum Associates.

Royce, T. (2007b). Multimodal communicative competence in second language contexts. In T. Royce, & W. L. Bowcher (Eds.), *New Directions in the Analysis of Multimodal Discourse* (pp. 361-403). New Jersey and London: Lawrence Erlbaum Associates.

Royce, T., & Bowcher, W. (2007). *New Direction in the Analysis of Multimodal Discourse.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Runco, M. A., Nemiro, J., & Walberg, H. J. (1998). Personal Explicit Theories of Creativity. *Journal of Creative Behavior, 32*(1), 1-17.

Salomon, G., & Perkins, D. N. (1989). Rocky roads to transfer: Rethinking mechanisms of a neglected phenomenon. *Educational Psychologist, 24*(2), 113-142.

The Standard. (2018, September 18). *Laughing in face of the big blow*. Retrieved from The Standard: http://www.thestandard.com.hk/section-news.php?id=200291

Thurlow, C., & Mroczek, K. R. (Eds.). (2011). *Multimodal Creativity and Identities of Expertise in the Digital Ecology of a World of Warcraft Guild.* New York: Oxford University Press.

Unsworth, L. (2008). *Multimodal semiotics: Functional analysis in contexts of education.* London & New York: Continuum.

Unsworth, L. (2013). Re-configuring image-language relations and interpretive possibilities in picture books as animated movies: A site for developing multimodal literacy pedagogy. (V. V. Heberle, Ed.) *Ilha do Desterro: A journal of English language, literature in English and cultural studies*, 15-48.

van Leeuwen, T. (1999). *Speech, Music, Sound.* London: Macmillan.

Veloso, F. O., & Bateman, J. A. (2013). The multimodal construction of acceptability: Marvel's Civil War comic books and the PATRIOT Act. *Critical Discourse Studies, 10*(4), 1-19.

Ventola, E., Charles, C., & Kaltenbacher, M. (2004). Introduction. In E. Ventola, C. Charles, & M. Kaltenbacher (Eds.), *Perspectives on Multimodality* (pp. 1-6). Amsterdam / Philadelphia: John Benjamins Publishing Company.

Vo, T. A., & Carter, R. (2010). What can a corpus tell us about creativity? In A. O'Keeffe, & M. McCarthy (Eds.), *The Routledge Handbook of Corpus Linguistics* (pp. 302-315). Abingdon: Routledge.

Zhao, S. (2012, May 28). *Learning Through Multimedia Interaction: The Construal of Primary Social Science Knowledge in Web-based Digital Learning Materials.* Retrieved December 1, 2014, from The Sydney eScholarship Repository: Learning Through Multimedia Interaction: The Construal of Primary Social Science Knowledge in Web-based Digital Learning Materials: http://ses.library.usyd.edu.au/handle/2123/8376

Dr. Locky Law is senior research assistant in the Centre of Applied English Studies (CAES) at the University of Hong Kong, Hong Kong.