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# Connecting emerging perspectives on learning and complementary perspectives on language

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In the past decade, the changing environment of higher education and the appearance of new pedagogical ideas have challenged more traditional approaches to learning that tend to focus on either disciplinary enculturation or the development of generic skills. There is now a need for 'ecological' perspectives on learning, as well as curricula and pedagogies that enable students to be authentic, to 'break free' and to 'stand up to the world' (Barnett, 2004, 2007). There is also a need for complementary perspectives on language as a principal means through which active meaning-making can occur. While dialogic perspectives can complement emerging perspectives on language, they can also be constrained by underlying structuralist conceptions of language. This paper argues that an ecological-semiotic perspective, largely influenced by Peirce's semiotics (van Lier, 2000, 2004, 2008, 2010, 2011; Augustyn, 2012), provides a more adequate conception of language. The paper explores the ways in which this ecological-semiotic perspective on language, which views language learning as an active, open-ended process of meaning-making, or *semiosis*, complements an ecological perspective on learning, and suggests some implications and possibilities for academic language and learning (ALL) practice.

**Key Words**: learning, language, ecological, semiotic, Peirce.

## 1. Introduction

In the past decade, the changing environment brought about by open education, the Internet and globalisation has led to a range of new conceptions of learning. Phrases like 'personalised learning journeys', 'students as partners in learning' and the 'co-creation of knowledge' are both buzzwords and signs of actually changing relationships between students, teachers, universities and the world. There is now a more complex ecology of higher education. Amidst the various, conflicting ideas of what the university is or should be, Barnett puts forward the idea of the ecological university, which "takes seriously both the world's interconnectedness and the university's interconnectedness with the world", and sees its appearance in increasing conceptions of students as global citizens, who "come to have a care or concern for the world and to understand their own possibilities in the world and towards the world" (2011a, p. 451). An ecological perspective in a broader sense, which "draws attention to the environment and the dynamic character of the entities in the environment and their relationships" (Barnett, 2011b, p. 141), is necessary to comprehend the complex interconnections that are now emerging.

In this changing environment, academic language and learning (ALL) practitioners can support new approaches or conceptions of learning, as well as developing perspectives on language that complement these approaches. While dialogic perspectives, such as that of Bakhtin (1981, 1986) can complement emerging perspectives on learning, they can also be constrained by underlying structuralist conceptions of language as an autonomous system, separate from its role

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in individual meaning-making. More recently, an ecological-semiotic perspective, largely influenced by Peircean semiotics, has begun to gain more recognition as an alternative to structuralist linguistics (Lier, 2000, 2004, 2008; Augustyn, 2012). This paper argues that this ecological-semiotic perspective on language can complement emerging perspectives on learning by explaining and affording meaning-making (or *semiosis*) as a fundamental aspect of learner empowerment.

## 2. Emerging perspectives on learning

In response to the changing world of higher education, the past decade has seen the emergence of a range of new perspectives on learning. A comprehensive review of these new perspectives is beyond the scope of this paper, but some key themes can be outlined. Firstly, emerging perspectives have partly arisen from the inadequacies of more established approaches to accommodate the needs of current cohorts of students or foster the kinds of capacities and dispositions that students now need. In the fluid and uncertain context of the contemporary university, Barnett (2004) questions the adequacy of both 'disciplinary initiation' and 'generic skills' approaches to prepare students for uncertain futures. Rather, he suggests that "learning for an unknown future cannot be accomplished by the acquisition of either knowledge or skills" (p. 259), but rather by fostering "human being and becoming that offer the wherewithal for standing up to the world and engaging with it and in it purposefully" (p. 260). In an increasingly open educational environment, a disposition or will to learn, as well as the courage to take a stand among others and speak or write one's ideas are now more essential than acquiring disciplinary knowledge or '21st century skills'.

Secondly, many new perspectives on learning emphasise changing relationships within the complex ecology of higher education. For example, Ryan and Tilbury (2013, p. 5) suggest six "new pedagogical ideas" that embrace the changes currently taking place: "learner empowerment" – involving students in "co-creation" and therefore changing power relationships; "future-facing education", involving "engagement and change" towards better futures; "decolonising education" – moving beyond "Western worldviews" towards "inter-cultural understanding"; "transformative capabilities" – engaging the "whole-person" in transformative approaches to learning; "crossing boundaries" – involving interdisciplinary and different perspectives; and "social learning" – connecting "spaces and interactions outside the formal curriculum". Underlying these ideas are changing relationships between students and teachers; disciplinary boundaries and global issues; universities and the world; domestic and international students; 'students' and whole, individual selves; and curricula and extra-curricula work.

New perspectives on learning also suggest new curricula and pedagogical challenges. According to Barnett, the "curriculum challenge" is "the design of spaces into which the student can move and experience the world in new ways, the pedagogical challenge is that of prompting the student to take up such a disposition" (2007, p. 157). The curricula challenge is to balance freedom and control in creating spaces that will afford both the development of disciplinary knowledge and relevant skills, as well as empowering learners to actively participate in knowledge creation. The pedagogical challenge is to foster the personal development students need to connect with their studies in authentic ways and to take hold of things in their own way (p. 44). Barnett (2014, p. 63) also emphasises the need for a "flexible pedagogy" in which students are immersed in disciplinary studies, reflect on and critically engage with their learning experiences, and interact "empathically and collaboratively with others in the world". Without such flexibility on the part of both teachers and students, innovative pedagogical ideas such as 'personalized learning journeys' and 'students as partners in learning' are unlikely to succeed.

The challenge for academic language and learning (ALL) practitioners is to support these new perspectives within the complex ecology of contemporary higher education. As well as adopting a broad ecological perspective on learning and contributing to the adoption of innovations in curricula and pedagogy, ALL practitioners also need to develop complementary perspectives on language. Barnett (2007, p. 168) also writes that "our contemporary language in higher education is totally inadequate" to the current situation, and appeals instead to "a language that speaks to personal qualities and to pedagogical qualities" and to ideas such as being, becoming and au-

thenticity. Clearly, ALL practitioners can play a role in promoting such language. However, they can also contribute further in developing complementary perspectives on language itself and in promoting the kind of language development that builds qualities such as authenticity and 'standing up to the world'. As van Lier suggests, "a theory of language and meaning [is] needed to complement an ecological approach to learning and teaching" (2010, p. 3). As well as investigating and promoting learner empowerment, ALL practitioners can also develop perspectives on language as one of the primary ways through which relationships are formed, meanings made and actions taken.

## 3. Emerging complementary perspectives on language

In fact, the past decade has begun to see a shift towards perspectives on language that are more complementary to emerging perspectives on learning. This shift has also partly arisen from criticisms of more established views, in the context of practical work in areas such as academic language and learning, and literacy support. An influential example is Lea and Street's (1998) critique of models of student writing in higher education and associated theories of language, as outlined by Lillis (2004). Lea and Street identify three main perspectives on student writing and suggest the need for a shift from a deficit 'study skills' model, which views student writing as a "technical and instrumental skill", and an 'academic socialisation' model, which emphasises induction into disciplinary cultures, towards a more encompassing 'academic literacies' model, which views "institutions as sites of/constituted in discourses and power" and student writing as "meaning-making and contested" (Lea & Street, 1998, p. 172). As Lillis points out, underlying this shift in perspectives on writing is a shift in perspectives on language, from a view of language as a "transparent and autonomous system", to "discourse practices which learners will/must gradually come to learn implicitly", to "language as socially situated discourse practices which are ideologically inscribed" (Lillis, 2004, p. 194). In terms of broader educational goals, Lillis also emphasises a parallel shift from 'monologic' to 'dialogic' practices, focusing on the work of Bakhtin (1981, 1986) as the most influential dialogic approach.

In many ways, Bakhtin's dialogic approach exemplifies the kind of perspective on language that complements emerging perspectives on learning. Under the name of Voloshinov (1973), Bakhtin's work was itself largely a critique of structuralist approaches to language, particularly Saussure's structuralist linguistics and semiology. Saussure's semiology, or theory of signs, centres on a 'dyadic' or 'dualistic' division of the linguistic sign into the signifier and the signified, in which linguistic signs such as words connect acoustic (or graphic) images (*signifiers*) with mental concepts (*signifieds*). Both of these elements, the particular sounds or marks on the page and the concepts they signify, are the result of social convention, and their meaning is determined by the system of language in which they have evolved, rather than the intentions and interpretations of individual speakers and listeners. Saussure's primary concern was the system (*langue*) and the rules and oppositions that determine significations, rather than with language use (*parole*). Therefore, structuralist linguistics tends to focus on the meaning of isolated words and sentences, rather than meaning-making in actual contexts. For Bakhtin, on the other hand, "the fundamental unit of analysis is the 'utterance', rather than the word or the sentence" (Freedman & Medway, 1994, p. 6). Bakhtin views utterances as the unique products of individuals in particular contexts: "speech can exist in reality only in the form of concrete utterances of individual speaking people, speech subjects. Speech is always cast in the form of an utterance belonging to a particular speaking subject" (Bakhtin, as cited in Wertsch, 1991, p. 50). However, individual utterances are never entirely original, but are always made in implicit or explicit dialogue with the past and anticipated utterances of others (Englert, Mariage, & Dunsmore, 2006, p. 216). Prior writes that "Baktinian and other sociohistoric perspectives on discourse - perspectives grounded in dialogic and situated notions of voice, utterance and genre - offer a radical alternative to structuralist notions of languages as systems of words, rules, and worlds" (2001, p. 57). In fact, Bakhtin's dialogic perspective has also greatly influenced ALL and related research and practice, particularly in connection with academic writing (Chatterjee-Padmanabhan, 2014) and particular issues such as the use of sources (see, for example, Pennycook, 1996; Ramanathan & Atkinson, 1999; Chandrasoma, Thompson, & Pennycook 2004; Price, 2014) and feedback on student writing (Norton, Storch, & Thomspson, 2014).

However, Bakhtin's perspective on language, depending on the way it is interpreted and used, can also be limited in its ability to support an ecological perspective on learning. As Lillis (2003) points out, if dialogue is merely taken as a 'given', dialogic approaches to language can be merely descriptive. Rather, Lillis emphasizes the need to actively promote "dialogue as something to struggle for", as expressed through Bakhtin's distinction between monologic, centripetal forces in language that evince "one truth, one voice, one identity, binary logic, authoritative discourse" and dialogic, centrifugal forces that permit "many truths, many voices, many identities, hybridity, internally persuasive discourse" (Lillis 2003, p. 198). In other words, simply adopting a dialogic approach does not necessarily result in actual dialogue or pluralistic meaning-making; rather, such goals must be actively achieved. Another potential limitation, paradoxically, is for dialogic perspectives to be influenced by structuralist views of language. For example, interpretations and applications of Bakhtin's ideas have tended to be influenced by Derrida's deconstructionist concepts of *iterability* and *différance* (Price, 2014), in which the meaning of any term resides in the 'marks' or 'traces' (Derrida, 1977) of past or future uses of the same term, and is therefore constantly 'deferred' to these other uses and never entirely present in itself. In fact, Derrida's post-structuralist approach retains a dualist approach to the linguistic sign, albeit one that foregrounds the primacy of the signifier, rather than the autonomy of the system. While deconstructionism has been useful for literary criticism and related areas of study, it is not concerned with individual meaning-making and is not particularly useful in fostering the kind of language development students need to connect with other texts and take hold of things in their own way (Barnett, 2007, p. 44).

In fact, Bakhtin's original perspective on language did appreciate the role of individual thoughts and intentions in the production of utterances, as well as the sociohistorical context, although these understandings are not articulated in his most well-known concepts. As Prior points out, in his earlier writing under the name of Voloshinov, he treated utterances as semiotic, rather than purely linguistic phenomena, originating at least in part from what he called 'inner speech':

> The outwardly actualized utterance is an island arising from the boundless sea of inner speech, the dimensions and forms of the island are determined by the particular situation of the utterance and its audience ... every outer ideological sign, of whatever kind, is engulfed in and washed over by inner signs - by the consciousness. The outer sign originates from this sea of inner signs and continues to abide there, since its life is a process of renewal as something to be understood, experienced, and assimilated, i.e., its life consists in its being engaged ever anew into the inner context (Voloshinov, as cited in Prior, 2009, p. 19).

As well as individual thoughts, Bakhtin also acknowledged the role of purpose and intention in discourse. Ramanathan and Atkinson point out that while Bakhtin commentators tend to emphasis the irreducible nature of intertextuality, "in his own development of the theory, however, Bakhtin moved beyond this view, stating in true dialectical style that a language user must appropriate the other, prior voices inhabiting his or her language, in Bakhtin's words 'populat[ing] it with his own intention'" (Ramanathan & Atkinson, 1999). In discussing the importance of dialectic and tension in Bakhtin's work, Lillis (2003, p. 199) also notes "his focus on centripetal and centrifugal forces, and on the struggle the individual faces in trying to take control over meaning-making, by making words one's own". However, while Bakhtin's perspective on language does explain individual meaning-making, it does not fully articulate this process at the most fundamental level. This is the level of *signs*, as the basic elements of meaning, and their action in meaning-making, or *semiosis.*

## 4. The emerging ecological, semiotic perspective on language

In fact, an ecological-semiotic perspective based on Peirce's semiotics (van Lier, 2000, 2004, 2008, 2010, 2011; Augustyn, 2012) can provide an alternative to structuralist linguistics. As well as complementing Bakhtin's dialogic approach (Merrell, 1997; Ponzio, 1997; Van Lier, 2004), this perspective complements ecological theories of learning by viewing language use as an active, open-ended process of meaning-making, which unfolds through the action of signs.

The fundamental difference between Peirce's approach to language and Saussure's is Peirce's triadic conception of signs. In contrast to Saussure's reduction of the sign to a *signifier* and a *signified*, Peirce defines the sign as consisting of three essential elements:

> I define a *Sign* as anything which on the one hand is so determined by an object and on the other hand so determines an idea in a person's mind, that this latter determination, which I term the *Interpretant* of the sign, is thereby mediately determined by that object. A sign, therefore, has a triadic relation to its object and to its Interpretant (*CP* 8.343).[1]

Peirce clearly distinguishes this triadic relation of sign elements (see Figure 1) from dyadic conceptions:

> A *Sign*, or *Representamen*, is a First which stands in a genuine triadic relation to a Second, called its object, as to be capable of determining a Third, called its *Interpretant*, to assume the same triadic relation to its Object in which it stands to the same object. The triadic relation is *genuine*, that is its three members are bound together by it in a way that does not consist in any complexus of dyadic relations (*CP* 2.274).

In contrast to the "notion of the sign relationship as dyadic, constituted by a *signifier* and a *signified*", which "removes intention, purpose, and interpretation from consideration" (Berthoff, 1981, p. 108), in Peirce's triadic semiotics, every sign requires another for its interpretation (Berthoff, 1981). Therefore "meaning does not subsist in lexical definition but requires context and perspective" and includes "the meaning-maker and the idea he thinks with, not just the sign and what it stands for" (Berthoff, 1981, p. 109). The action of the interpretant in determining the relation between the sign and its object is a vital aspect of Peirce's semiotics, since "without an interpretant there is no sign"(Ponzio, 1997, p. 335). Merrell writes that "unlike the homeless half of the Saussurian sign dyad, the Peircean event of sign presentation cannot be divorced from indication and mentation, the representamen cannot exist as such without linkage to its respective 'semiotic object' and its interpretant (themselves also signs)"(1997, p. 142).

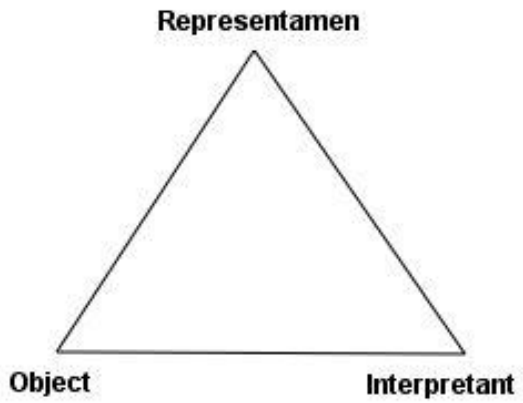


**Figure 1.** Peirce's triadic model of the sign.

Furthermore, since interpretants are themselves also signs; networks of interpretation proliferate in potentially endless chains of semiosis (see Figure 2), in which signs are always interpreted according to the circumstances.

[1]Following convention, *CP* refers to sections in Peirce's *Collected Papers*.

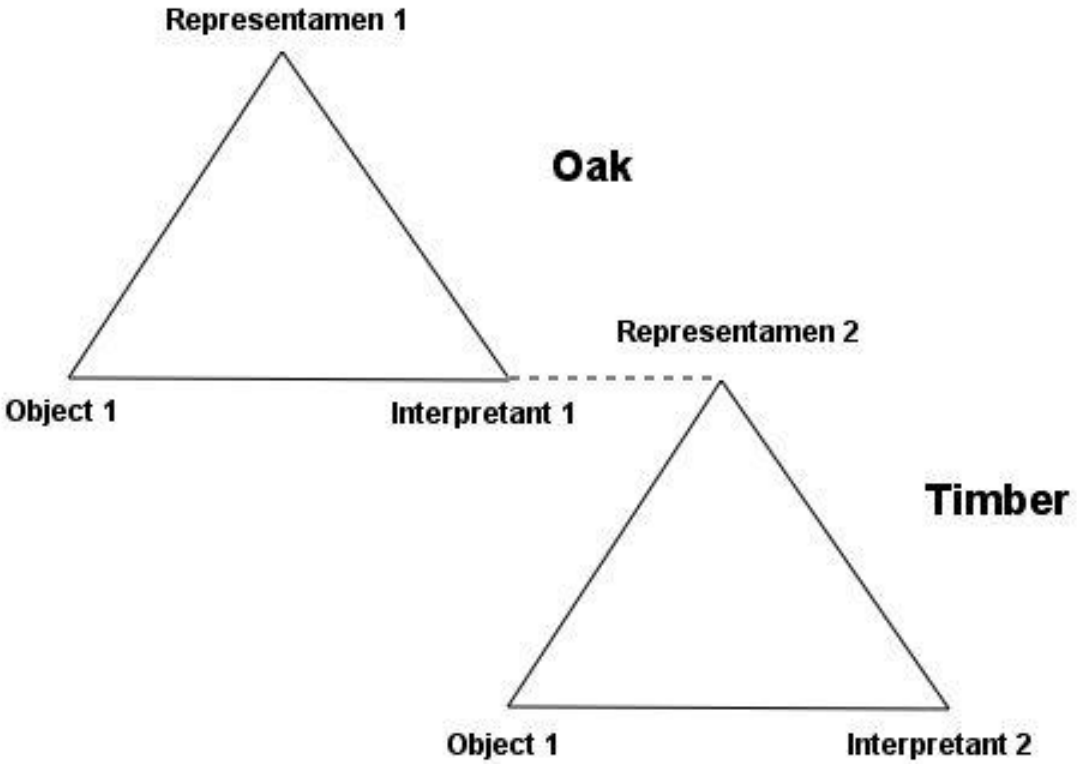


**Figure 2.** Semiosis.

As van Lier points out, while Saussure's dyadic sign is static, "Peirce's triadic sign is open and dynamic, always changing and always developing into other signs, in a never ending process of *semiosis* or meaning making" (2004, p. 61). Within this open process, "all signs, ourselves included, are interrelated, interdependent, and part of the self-organizing nature of semiosis" (Merrell, 2004, p.13). For Peirce, signs pervade all thought and action, on all levels. From 'inner thoughts' to conversations and written arguments, "at the basis of all feeling, reaction, and thought is our ability to signify and interpret signs" (Augustyn, 2012, p. 3). Therefore, "the whole of human experience, without exception, is an interpretative structure mediated and sustained by signs" (Deely, 1990, p. 5) or "a network of sign relations" (p. 13).

Although Peirce's semiotics has been associated with ecological perspectives for some time (for example, Deely, 1990), in the last decade an ecological-semiotic perspective on language has emerged (van Lier, 2000, 2004, 2008, 2010, 2011; Augustyn, 2012). Two key concepts that have influenced this approach are von Uexkull's concept of *umwelt* and Gibson's (1979) concept of *affordances*. Von Uexkull's idea of *umwelt* refers to the "the subjective world of an organism" and the way in which "reality exists only in so far as it is constructed by subjects" (Augustyn, 2012, p. 527). In his classic book, *A Stroll Through the Worlds of Animals and Men*, von Uexkull (1957) describes the entirely different meanings of an oak tree according to the *umwelten* or lifeworlds of the different creatures that inhabit or interact with it, such as an ant, a fox, an owl, a woodcutter, and a child. Similarly, Gibson's idea of affordances refers to "the *affordances* of the environment" or "what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill" (1979, p. 127). Van Lier places great importance on the concept of affordance, which he substitutes for the traditional idea of linguistic input. Rather than language developing through 'inputs' and 'outputs', he suggests that all signs in the environment, linguistic and non-linguistic act as affordances, or "relationships of possibility" that "make action, interaction and joint projects possible" (van Lier, 2010, p. 4). Combining these ideas, van Lier writes that:

> An ecological perspective (and a Peircean semiotics, which is an ecological semiotics par excellence), aligns with Bakhtin, and refutes the subject-object

> split through the relational notion of affordance, and the triadic nature of the sign, which is not just the signifier pointing to a signified, but also an interpretant creating a new sign based on the connection between sign and object, in a constantly emergent process of semiosis or meaning-making, a never-ending dialogue in fact, between what is, what may have been, and what may come to be (2011, p. 387).

Since semiosis, or the process of signs becoming other signs is inherently dialogic, Peirce's semiotic is fully compatible with Bakhtin's perspective on language (Merrell, 1997; Ponzio, 1997; van Lier, 2011). According to Merrell (1997, p. 56), "a crucially important feature of Peirce's triadic thinking being unfolded here is his notion of interrelatedness, which bears on *the dialogic nature of the sign*: for Peirce all signifying activity, in and of itself, is dialogic (in other words, *interrelational*) through and through". On the other hand, since Peirce's semiotic is also grounded in objective relations, it avoids the endless deferral of Derrida's "floating signifier" (Merrell, 1997, p.142), since "affordance ties perception and attention to activity, and relates the agent to the environment in purposeful ways" (van Lier, 2011, p. 387). Since "the learner picks up affordances and creates meaningful signs in the pursuit of some purpose" (van Lier, 2008, p.602), "there is nothing 'deferred'" (van Lier, 2011, p. 388).

In fact, another vital aspect of Peirce's semiotics is its pragmatism and connection with practical purposes. This is expressed most directly in Peirce's 'pragmatic maxim': "Consider what effects, that might conceivably have practical bearings, we conceive the object of our conception to have. Then, our conception of these effects is the whole of our conception of the object" (*CP* 5.438). Merrell (1997, p. 29) emphases the role of use and purpose in semiosis:

> Dialogic life in the Peirce-Bakhtin sense, then, creates meaning through contextualization (Ponzio, 1985, 1990). Signs exist in the full blown sense only when they take on interpretants, and in this process they become charged with meaning; if not, it is because they have not been properly embraced (*put to use*) by some semiotic agent *for* some purpose or other *within* some context.

Similarly, Berthoff (1991, p. 283) writes that "the process of learning from signs is endless; the interpretation of interpretation is an endless regression. But we live in a world of time and space and must therefore interrupt the invite process, bringing our hypotheses to the test". Rather than an endless deferral of intertextuality, semiosis for Peirce is an active, purposeful process of meaning-making.

This active process of semiosis, or signs becoming other signs, involves other triadic relations that Peirce elaborates in his complex semiotics (see Merrell 1997 for a full explanation, which is beyond the scope of this paper). Another triadic relation that is particularly relevant to this paper is the interaction of three different kinds of inference that play a central role in all acts of inquiry. These are *induction*, or the application of signs to experience; *deduction*, or the process of reasoning from sign to sign; and *abduction*, or the invention of signs to make sense of new experience (Cunningham, 1992). For Peirce, abduction is the only the kind of inference that is involved in the creation of new ideas:

> A mass of facts is before us. We go through them. We examine them. We find them a confused snarl, an impenetrable jungle. We are unable to hold them in our minds. We endeavour to set them down upon paper; but they seem so multiplex intricate that we can neither satisfy ourselves that what we have set down represents the facts, nor can we get any clear ideas of what it is that we have set down. But suddenly, while we are poring over our digest of the facts and are endeavouring to set them down into order, it occurs to us that if we were to assume something to be true that we do not know to be true, these facts would arrange themselves luminously. That is abduction (*CP* 8.209).

The cyclic interaction of the three different kinds of inference is fundamental to semiosis and therefore to all kinds of inquiry. As Cunningham explains, the cycle of inference permeates life experiences:

> Signs are invented to account for experience; these signs are linked to existing sign structures and then used to define the Umwelt for that organism. But the world is not infinitely malleable to our sign structures, and the abductive will again be instigated (Cunningham, 1992, p. 185).

In fact, this cyclical process, which is both iterative and recursive, is central to all kinds of inquiry and meaning-making. As a whole, Peirce's semiotics offers a perspective on language that is entirely adequate to educational ideas such as becoming and authenticity.

## 5. Some design principles for a semiotic approach to academic language and learning

Although a full exploration of the ways in which Peirce's semiotics can support contemporary learning and teaching, including ALL work, is also beyond the scope of this paper, two preliminary design principles can be suggested on the basis of the discussion above. These principles complement the "design implications of a dialogic approach" suggested by Lillis (2003, p. 204-205), which include providing "talkback not feedback on students' written texts" and opening up "disciplinary content to 'external' interests and influences" and "academic writing conventions to newer ways to mean". Just as these design implications aim to actively promote dialogue, the following design principles aim to promote active semiosis. In terms of ALL practice, these principles are equally valid in a range of pedagogical contexts involving student writing, from collaborating to embed writing skills in first year course to supporting thesis writing by international Higher Degree Research (HDR) students.

One design principle for a semiotic approach to academic language and learning is to create semiotically rich teaching and learning environments, and authentic, inquiry-based pedagogical approaches, in which meaning-making can occur on many levels. As Barnett suggests, learning always involves various depths of meaning-making:

> The forming of an utterance, of a practical act of knowing or a textual proposition, is the framing of ideas, sentiments and murmurings that lay within. The forming of the paragraph is a dredging up and a creative ordering of inner movements in the student's being ... (2007, p. 31).

This necessitates a perspective on learning that also embraces the "felt dimension to ideas" (Barnett, 2014, p. 174), as well as other aspects of inquiry such as the development of positions and arguments. In other words, it affords the making of abductive inferences, as well as inductive and deductive ones. Therefore, as van Lier (2008, p. 603) writes, "the teaching-learning environment must be rich in affordances, that is, opportunities for perceptual learning, and must engage learners in meaningful activities". Examples of such affordances include the use of a range of media, apart from text, to present various kinds of signs; and the use of activities, such as online forums and in-class debates to engage students in the kind of meaningful dialogue in which "feelings, desires and values" can be " subjected to critical scrutiny" (Barnett, 2011b, p. 146).

A second design principle is to actively promote experimental, pragmatic approaches to language use. Such approaches should encourage students to experiment with words and ideas and overcome the epistemological anxiety of "framing something orderly, something grounded, out of the chaos of entities – terms, concepts, theories, procedures – that are swirling in [their] mind[s]" (Barnett, 2007, p. 36), and the ontological anxiety of "breaking free of surrounding voices and texts" (Barnett, 2007, p. 51) to develop their own ideas. The kind of experimentation that can be encouraged is suggested by Berthoff's (1981) approach to teaching composition and van Lier's approach to grammar. Berthoff practically applies Peirce's pragmatic maxim in the form of a question: "How does it change your meaning if you put it this way?" (1981, p. 71). She views writing as a "way of seeing what-would-happen-if" (1982a, p. 136), in which the composing "mind in action selects and orders, matches and balances, sorting and gathering as it shapes meanings and controls their interdependencies" (1982b, p.69). This process, in which "meanings don't just happen: we make them; we find and form them" (Berthoff, 1981, p. 69) is also "a dialectic of chaos and form" (1982a, p. 65). Therefore, writers need to understand how to use chaos:

> *Knowing that* chaos is the source is the condition of *knowing how* to use it. Learning the use of chaos is a method for learning to intuit the relationship of parts in a whole that is coming into being, which in compositional terms means coming to *mean*: the juncture of thought and language is the making of meaning (1981, p. 57).

The dialectic of composing turns on the choices that writers make and the consequences of these choices at every linguistic level, including grammar. As van Lier (2007) writes:

> Grammar is in the first instance not what is (induction), nor what should be (deduction), but what may be (abduction). As a result of the primarily abductive work done in action, inductive (data-based) and deductive (norm-based) aspects of language will also become relevant. (pp. 56-57)

As well as providing a rich semiotic environment that engages thoughts and feelings, and enables students to develop concepts and arguments, teaching and learning environments also need to present students with choices on all levels of language and to encourage them to experiment and venture their own meanings.

## 6. Conclusion

Preparing students for uncertain futures means empowering them as learners, involving them in co-creation, engaging the whole-person, and enabling them to connect with the world outside the university. All of these approaches to learning also mean students being authentic, 'breaking free' and 'standing up to the world'. However, preparing students for the future also means developing their abilities to use language and other semiotic resources to make meaning. If students are to become global citizens, to develop a care and concern for the world, then curriculum development and pedagogy need to address the following question from Barnett (2011b, p.150): "does this activity advance wellbeing – of the world, of the universe?" However, they also need to complement this with Peirce's pragmatic maxim: what meanings does this activity enable students to express, and what difference does it make? In other words, "the student's being-to-be in the future" (Barnett, 2007, p. 9), needs to be complemented by personal growth as a user and interpreter of signs.

## References

Augustyn, P. (2012). On semiotics in language education. *Semiotica, 192*, 523-533.

Bakhtin, M. (1981). Discourse in the novel. In M. Holquist (Ed.). *The Dialogic Imagination. Four Essays by M. Bakhtin.* M. Holquist & C. Emerson (Trans.). Austin: University of Texas Press.

Bakhtin, M. (1986). *Speech genres and other late essays*. M. Holquist & C. Emerson (Eds.). V. McGee (Trans.). Austin: University of Texas Press.

Barnett, R. (2000). Supercomplexity and the curriculum. *Studies in Higher Education, 25*(3), 255-265.

Barnett, R. (2004). Learning for an unknown future. *Higher Education Research & Development, 31*(1), 65-77.

Barnett, R. (2007). *Will to learn: being a student in an age of uncertainty*. Berkshire: McGraw-Hill Education.

Barnett, R. (2011a). The coming of the ecological university. *Oxford Review of Education, 37*(4), 439-455.

Barnett, R. (2011b). *Being a university*. Oxon: Routledge.

Barnett, R. (2014). *Conditions of flexibility securing a more responsive higher education system*. York: Higher Education Academy.

Barrie, S. (2004). A research-based approach to generic graduate attributes policy. *Higher Education Research & Development, 23*(3), 261-275.

Berthoff, A. (1981). *The Making of Meaning: Metaphors, Models and Maxims for Writing Teachers*. Boynton/Cook Publishers, Monclair, N.J.

Berthoff, A. (1982a). *Forming, thinking, writing: the composing imagination.* Portsmouth: Heinemann Educational Books Inc.

Berthoff, A. (1982b). I. A. Richards and the audit of meaning. *New Literary History, 14*, 63-79.

Berthoff, A. (1991). Rhetoric as hermeneutic. *College composition and communication, 42*(3), 279-287.

Chandrasoma, R.,Thompson, C., & Pennycook, A. (2004). Beyond plagiarism: transgressive and nontransgressive intertextuality. *Journal of Language, Identity, and Education, 3*(3), 171-193.

Chomsky, N. (1965). *Aspects of a Theory of Syntax*. Cambridge, Massachusetts: MIT Press.

Cunningham, D. (1992). Beyond educational psychology: steps toward an educational semiotic. *Educational Psychology Review, 4*(2): 165-194.

Deely, J. (1990). *Basics of semiotics*. Bloomington: Indiana University Press.

Deleuze, G., & Guattari, F. (1988). *A thousand plateaus*. London: Athlone Press.

Englert, C., Mariage, T., & Dunsmore, K. (2006). Tenets of sociocultural theory in writing instruction research. In C. MacArthur, S. Graham, & J. Fitzgerald (Eds.). *Handbook of writing research* (pp. 208-221). New York: Guildford Press.

Freedman, A., & Medway, P. (1994). Locating genre studies: antecedents and prospects. In A. Freedman & P. Medway (Eds.). *Genre and the new rhetoric* (pp.1-20). London: Taylor and Francis.

Gibson, J. (1979). *The ecological approach to visual perception*. Hillsdale, N.J: Erlbaum.

Greeno, J., Collins, A., & Resnick, L. (1996). Cognition and learning. In D. Berliner & R. Calfee (Eds.). *Handbook of Educational Psychology* (pp. 5-46). New York: Macmillan.

Grisham, T. (1991). Linguistics as an indiscipline: Deleuze and Guattari's pragmatics. *Substance, 20*(3), 36-54.

Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in Higher Education, 23*(2), 157-172.

Lillis, T. (2003). Student Writing as 'Academic Literacies': Drawing on Bakhtin to Move from Critique to Design. *Language and Education, 17*(3), 192-207.

Mayes, T., & de Freitas, S. (2004) *Review of e-learning theories, frameworks and models*. London: Joint Information Systems Committee. Retrieved from http://www.jisc.ac.uk/whatwedo/programmes/elearningpedagogy/outcomes.aspx

Merrell, F. (1997). *Peirce, signs, and meaning*. University of Toronto Press.

Merrell, F. (2001). Charles Sanders Peirce's concept of the sign. In P.Cobley (Ed.). *The Routledge companion to semiotics and linguistics* (pp. 28-39). London: Routledge.

Merrell, F. (2004). Peirce's basic classes of signs in a somewhat different vein. *Digital Encyclopedia of CS Peirce*. Retrieved from http://www.digitalpeirce.fee.unicamp.br/home.htm

Peirce, C. (1931-1966). *The Collected Papers of Charles Sanders Peirce.* Cambridge: Harvard University Press.

Pennycook, A. (1996). Borrowing other's words: text, ownership, memory, and plagiarism. *TESOL Quarterly, 30*(2): 201-230.

Ponzio, A. (1997). Semiotics between Peirce and Bakhtin. *Russian Literature, 41*, 333-352.

Price, S. (2014). Student ownership of language: a perspective drawn from Bakhtin and Derrida. *Journal of Academic Language and Learning, 8*(3), 12-22.

Prior, P. (2001). Voices in text, mind, and society: sociohistoric accounts of discourse aquisition and use. *Journal of Second Language Writing, 10*, 55-81.

Prior, P. (2003). Are communities of practice really an alternative to discourse communities. Paper presented at the 2003 American Association of Applied Linguistics (AAAL) Conference,Arlington, VA. Retrieved from: http://www.semremtoo.org/Prior/home/PriorAAAL03.pdf

Prior, P. (2009). From speech genres to mediated multimodal genre systems: Bakhtin, Voloshinov, and the question of writing. In C. Bazerman, A. Bonini & D. Figueiredo (Eds.). *Genre in a changing world* (pp.17-34). Colorado: The WAC Clearinghouse

Ramanathan, V., & Atkinson, D. (1999). Individualism, academic writing, and ESL writers. *Journal of Second Language Writing*, *8*(1), 45-75.

Ryan, A., & Tilbury, D. (2013). *Flexible Pedagogies: new pedagogical ideas*. London: Higher Education Academy.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher*, *27*(4), 4-13.

van Lier, L. (2000). From input to affordance: social-interactive learning from an ecological perspective. In Lantolf, J. (Ed.). *Sociocultural theory and second language learning* (pp. 245-260). Oxford: OUP.

van Lier, L. (2004). *The ecology and semiotics of language learning: A sociocultural perspective*. Boston: Kluwer Academic Publishers.

van Lier, L. (2007). Action-based Teaching, Autonomy and Identity, Innovation. *Language Learning and Teaching*, *1*(1), 46-65.

van Lier, L. (2008). Ecological-semiotic perspectives on educational linguistics. In B. Spolsky & F. Hult (Eds.). *The handbook of educational linguistics* (pp. 596-605). Malden, MA: Blackwell.

van Lier, L. (2011). Language learning: an ecological-semiotic approach. In E. Hinkel (Ed.). *Handbook of research in second language teaching and learning* (pp.383-394). New York: Routledge.

Ventimiglia, M. (2005). Three educational orientations: a Peircean perspective on education and the growth of the self. *Studies in philosophy and education*, *24*(3-4), 291-308.

Voloshinov, V. (1973). *Marxism and the philosophy of language*. New York: Seminar Press.

von Uexkull, J. (1957). A stroll through the worlds of animals and men: A picture book of invisible worlds. In C. Schiller (Ed.). *Instinctive behaviour: The development of a modern concept* (pp. 5-80). New York: International Universities Press.

Wertsch, J. (1991). *Voices of the mind: a sociocultural approach to mediated action*. Cambridge, Massachusetts: Harvard University Press.