A NEW FRAMEWORK OF COMMUNICATIVE LANGUAGE TEACHING TO CORRESPOND WITH THE CURRENT DIGITAL INSTRUCTIONAL ERA

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ABSTRACT

Language learning factors and processes are experiencing substantial changes due to the expansion of digital learning sources and learning mechanisms. Not only humans but also machines are now becoming significant learning factors and learning processes. For this reason, this study is intended to propose a new model of CLT to respond to the multiple and diverse communication channels. A teaching-learning model needs to be developed based on the composite learning principle. This is a library study composed of collecting, studying, comparing, and analyzing various teaching-learning principles as postulated in various approaches. The results reveal that technologies in teaching and learning (education) and the way people learn languages has been revolutionizing. The focus of the English education contents (whats), venues (wheres), and ways (hows) have shifted from the traditional to the conventional broadcasting functionalities, and then to the web and the social media-platform of "folksonomies" and "mash-ups". The principles of English learning-teaching demand fine-tuning that are relevant with the new learning-teaching ecology. The keep-changing currency of knowledge and tech-tools needs to be accommodated in the ecology.A new communicative language teaching-learning model relevant to how a new communicative language teaching (CLT) and learning constructs is proposed here.

Keywords: CLT, digital environment, knowledge currency, new learning-teaching ecology

ABSTRAK

Faktor dan proses pembelajaran bahasa mengalami perubahan besar akibat berkembangnya sumber pembelajaran digital dan mekanisme pembelajaran. Tidak hanya manusia, mesin pun kini menjadi factor pembelajaran dan proses pembelajaran yang signifikan. Oleh karena itu, pengajaran bahasa memerlukan redefinisi karena sarana komunikasi yang rumit, banyak, dan beragam. Penelitian ini bertujuan untuk mengembangkan model pengajaran berdasarkan prinsip pembelajaran komposit. Data dikumpulkan melalui penelitian kepustakaan yang mempelajari dan mengutip berbagai prinsip belajar-mengajar yang didalilkan dalam berbagai pendekatan. Sebanyak empat puluh tiga teks yang membahas prinsip-prinsip belajar-mengajar yang berbeda dibandingkan dan dijelaskan. Hasilnya mengungkapkan bahwa teknologi dalam pengajaran dan pembelajaran (pendidikan) dan cara orang belajar bahasa telah mengalami revolusi. Fokus konten pendidikan bahasa Inggris (apa), tempat, dan cara telah bergeser dari fungsi penyampaian tradisional ke konvensional, dan kemudian ke web dan

platform media sosial "folksonomi" dan "mashup". Prinsip-prinsip pembelajaran bahasa Inggris memerlukan penyesuaian yang relevan dengan ekologi pembelajaran-mengajar yang baru. Dalam artikel ini disajikan model pembelajaran bahasa komunikatif baru yang relevan dengan bagaimana pengajaran bahasa komunikatif (CLT) dan konstruksi pembelajaran baru.

Kata kunci: *CLT, lingkungan digital, kebaruan pengetahuan, ekologi pembelajaran-mengajar baru*

INTRODUCTION

Learning is an ecological process. Modes of learning, including English learning today, have been disrupted by the changes in the technological ecology. (Frielick, 2004) contended that beyond-constructivist perspectives understand learning as an ecological process of transforming information into knowledge, in which teachers, subjects, and students are framed in a context where the impacts of their complex interaction determine the quality of learning.

Learning no longer relies on classroom interaction. Learning sources are not monotony. People connect to the digital ecology to help them learn new things, memorize new information, provide them with tech-based knowledge management, and get knowledge from people worldwide that they do not even personally know. Learners synthesize knowledge from different "teachers", human and non-human. Class teachers are only part of a bigger picture of human and non-human sources of knowledge across the worlds available at the fingertip of a learner. Class teachers no longer are the fountainhead of knowledge and information. The teacher is only one of the sources of knowledge (T. H. Brown, 2006).

Students are becoming more independent in exploring learning sources, learning strategies, and progress assessments independently. They may rely on both in-class and more significantly out-of-class learning experiences. And this deals with learner autonomy issues that should become more of importance. Autonomy suggests that learning sources are no longer teacher-dominated; learning strategies are not always teacher-suggested; and tests can be easily obtained online. A teacher-provided evaluation measure is just another way for students to know their current performance.

Courseware has been shifting to performance ware(T. H. Brown, 2006). Lecturing has been partly supplemented with learning artifact (product) creation to

show how one has learned. What students perform matters more than what they can finish on tests. According to (Hosenfeld et al., 1992), performance assessment requires students to show a response, create a product, or demonstrate knowledge application. Learning evaluation or assessment is no longer the same as that of the traditional practices. It is no longer merely about what they can do in a *test*, but also what they can perform in a *task*. As far as English teaching and learning is concerned, for assessment purposes students today may store and showcase their learning artifacts on such platforms as blogs and e-portfolio applications for texts, videos, and images to showcase their performance, ideas, and learning achievements. Slide Share for presentation formats, YouTube for videos, and such applications as Sound Cloud for audio artifacts have become common media for the same purpose.

Project-Based Learning (PBL) and other e-portfolio-based evaluation mechanisms are becoming common. Students create learning artifacts and store them to be evaluated by teachers (and also peers), to show their learning pace, and to evaluate their current levels of performance. Students themselves are becoming more autonomous in navigating for sources and in wrapping their ideas into various idiosyncratic project artifacts. In the process of constructing the projects, they might want to make rich communication both with machine sources and people, including their classmates/peers. These more self-initiated works demand stronger learner autonomy.

Little (2007)denoted that learner autonomy is partly a social-interactive phenomenon. With technology, students make interactions to develop distinct learning strategies and learning experiences that they can calibrate into learning strategies typical of their own. Teachers need to facilitate this new learning process. Technologies help teachers' ease up the process.

Cognitive learning tasks are much lessened by technologies. With the advancement of note-taking technology, for instance, piles of books, notes, learning plans, and compilations of specific learning materials can be sized down into a super tiny disc. Prints have been abandoned. Information sharing is becoming much handier with technology.

Students share to learn (Thijssen et al., 2002) They also network to get more informed. This needs different learning skills to be introduced. The ability to maintain connectivity has become central for learning success.

For teachers, a different TPACK (technology, pedagogy, content knowledge) needs to be figured out. This is because online technology is already omnipresent today. This requires different skills to make optimum use of it, especially for teachers.

Teachers (and students as well) need to be equipped with both digital skills and navigation skills (Chapelle, Carol A. & Sauro, 2017).Teachers need to be aided not only with computer literacy but also with skills in how to make digital connections (Frielick, 2004). They need to navigate to survive (Brown, 2006). This is to comply with the rapid changes in the learning ecology. Especially for the "T", the keep-renewing authoring tools, learning tools, learner tools, testing tools, learning management tools, and connecting tools are a serious challenge for, especially, language teachers at this point of technological advancement. This fundamental change offers a wider range of tools and development opportunities for teachers and students (Dudeney and Hockly, 2012).The latest, connecting tools, can take different platforms, web-based (blog-based) and messenger-based, each of which requires different digital skills to use. Various sharing and retrieving technologies need to be learned. Sharing or connecting via IG, *Google Classroom*, *Facebook*, blog, email, and messenger-based technologies require different digital skills. Such synchronous technologies as *Zoom, Google Meet, Jitsi Meet*, and other similar technologies have to be made familiar regarding the operation. Such simple skills as screen sharing can be a serious problem for teachers if they have not been familiar with it. Where to get the necessary information also requires different skills.

With the changing nature of what, how, and especially where (venue) knowledge is obtained in the connection era, are the educational principles in the CLT approaches still relevant? This study is then intended to propose a new construct of CLT which is relevant tech-ecologically.

METHOD

This study applied library research. Data were obtained through studying and analyzing theories from texts discussing various teaching-learning principles. It was to compare and describe the views of CLT in the previous learning constructs and the new tenets of the connectivism theory to explain how people get new (language) knowledge and skills in the beyond-constructivism era. This research should bring a new perspective as to how CLT should be approached in the beyond-constructivism era of today.

RESULTS AND DISCUSSION

1.1 Learning in Behaviorism, Cognitivism, and Constructivism Domains

The way learning is defined and how education practitioners believe in it will carry important implications. The previous learning theories concern how learning takes place in a sheltered environment (classroom) centering on the individual learner. Behaviorism, cognitivism, and constructivism (also social constructivism) explain how learning is processed intra personally.

With regard to learning venues, these theories suggest how new learning environments shall be *created* to facilitate learning. This is to help guide teachers to manipulate the required environment to facilitate language learning.

This first learning theory, behaviorism, suggests that a learner mechanically processes language input provided externally from him. External learning stimuli are selected and provided to nurture recurring good habits. A rigid learning environment is required to save the students from inaccurate (bad) stimuli.

Mistakes are extensively avoided or corrected in behaviorism. Error correction is significant (Yogyakarta, 2018). In addition to this, behaviorism provides practitioners with guidance to develop relevant learning materials, appropriate teaching techniques, and conducive learning environments beneficial for imparting preferable habits. The environment is manipulated. Learning is sheltered and much less relevant today.

Behaviorism is not interested in how input is processed in the cognition process to stay ready for future production, nor is it interested in exploring knowledge in other nodes of information sources outside the learning materials that

have been provided by the teacher. Behaviorism still centers on learning that occurs intra personally.

As for cognitivism, similarly, it attends learning in an individual. It is interested in how the mental process (cognition) when learning takes place in a learner. It helps explain how information is digested from the intake, process, and output stretch of language acquisition processes. This is about how input is looping in the mind from the short-term memory (STM) to the long-term memory (LTM) (Schneider & Shiffrin, 1977), then to the automatic production (McLaughlin in (Mitchell et al., 2013). Similarly, Lyster and Sato (2013) said that acquiring language skills is a gradual process, from the stage of struggling to use the target language for communication to automatic. This is about the input processing from the declarative knowledge (knowing that), to the procedural knowledge (knowing how), then to the full automation [Anderson Act* in Mitchell et al. (2013)] the input processing device in the brain. To arrive at full production, appropriate learning materials, strategies, and environment are required.

In the abovementioned views, the environment again needs to be adjusted to fit the axiomatic aspect of learning in this tenet. Teachers organize learning environments to help students to gain knowledge and skills (Jonassen, 2013). (Kumaravadivelu, 1994) also sees the environment as a determining intake factor to enhance learning. The environment is necessary to facilitate the subconscious process of learning. The learning process explanation is central to guide teachers to come up with the appropriate 3Ms: materials, methods, and measurements.

In constructivism, knowledge building is understood as a function of how the individual creates meaning from his or her own experience. The mind is a reference tool to the real world. The constructivists contended that the student's role is to construct his own understanding and knowledge of the world through experiencing things and reflecting on those experiences, not from merely stimuli provided in made-up contexts (Mitchell, Rosamond and Myles, 1998) by the individual student. Bada and Olusegun (2015) wrote that learners construct the meaning of certain things by assimilating and accommodating through their own experiences. Constructivists believe that the mind filters input from the world (experience) to produce its own unique reality variables.

Learners get knowledge from self-experiencing and then inferencing the information obtained from the experience. Constructivists believe that learners do not transfer knowledge from the external world into their memories. Instead, epistemologically, learners build personal interpretations of the world based on individual/personal experiences (Ertmer, Peggy A. and Newby, 2013). To help construct knowledge from a learning experience, a relevant environment is created for active learning. Active learning enables the students to construct knowledge (Muna Aljohani, 2017). Knowledge construction is situated in an appropriate environment(Winn, 2003). Linguistic environments play a vital role in knowledge construction (Doughty and Long, 2008). A lab school is a good example of it.

The three learning theories see that a learning process takes place internally of the learner. They fail to explain how learning takes place within an organization external to an individual (Siemens et al., 2005), whereas in this digital era, knowledge nodes are vastly available extra-personally. Learning takes place in these nodes as well.

Constructivism has not yet been interested in exploring how learners get the know-where. In constructivist education, teaching has been mostly about getting the know-what and know-how. These tenets are not yet sufficient to clarify how learning occurs extra-personally and interpersonally. People share to learn (Thijssen et al., 2002). The theory is then challenged by another learning theory regarding learning in the digital world within the beyond constructivism era.

1.2 Learning in the Connectivism Account

Siemens (2005) suggests the importance of building a completely new learning theory to explain how learning occurs in this web technology era that triggers a completely different way of learning and that a non-monolithic environment is a chaotic reality. The predictability of knowledge is hardly maintained for a longer period. In the new technological ecology, half-life knowledge (a term used in Siemens, 2005) lives shorter. The learning ecology of today is various and the learning arsenals are available in different nodes in the community of practice, in a database, in the opinions of others, in friends, in experts, in machines, and in all kinds of appliances. Learning takes place in a

nebulous environment whose changes are hard to predict (Siemens, 2005), what is current today may be obsolete tomorrow.

In the previous models of teaching, the goals are usually about providing knowledge to reside within the learner. All families of teaching models written by (Joyce & Weil, 2003) are classroom-based, teacher-centered, and environmentally manipulated. This is about the knowledge that is believed to be good for years. Technologies are used in three ways: tech-added, tech-mediated, and tech-based learning. In tech-based instruction, technologies totally replace FtF (face-to-face) interaction. In a tech-mediated platform, technologies may also simply be part of the lesson (interactive whiteboard, mash-ups, and other supporting tools). Tech-mediated teaching/learning may also appear in blended learning or flipped learning. In tech-added learning, technology does not reduce FTF or the amount of class interaction, but it is added as an extra activity or as part ofclassroom class activities. These are all sheltered or guided learning practices aiming at the targeted language skills and knowledge, the latter of which is usually about half-life knowledge.

However, today, waves of new knowledge have hit the world revolutionarily. The knowledge that one has not even planned to explore yesterday has been succeeded by even more abrupt changes of the knowledge. The knowledge that was initially targeted to be learned can be found outdated quickly. The knowledge currency issue is becoming important in learning/teaching materials, methodology, and performance measurements. This calls for a revolutionary educational measure to at least catch up with the tsunami of knowledge development. Classroom instructions seem to serve pejoratively in this matter today. Relying only on the previous teaching models that see the importance of a classroom learning environment for students to experience knowledge is simply like horse riding to catch up with a jet plane. In fact, classrooms only contribute a part to learning successes.

In addition, learning can occur in organizations and ideas (Siemens et al., 2005). Knowledge also resides in non-human organs. The skills to find the patterns and connections of information to get knowledge in the extra personal organization nodes are essential. Until recently, as (Halverson and Smith, 2009)wrote, social

networking sites to create connections are some of the examples of those that are excluded from school contexts.

By making connections, people can learn from other humans (Siemens et al., 2005; Siemens, 2005; Thijssen et al., 2002; Halverson and Smith, 2009). People leave part of their knowledge in friends' knowledge and experience and consequently, other people's opinions are precious (Siemens, 2005). In this regard, skills of networking or connecting with other people to get others' opinions can help learners tap knowledge that these other people keep with them from experiences. While constructivism suggests individual experience, connectivism explains that other organizations' knowledge is a precious source of knowledge as well. This is because no individual can experience all life events. One is not independent of others' experience and he in fact "surrogates" knowledge in others (Siemens et al., 2005). To get new knowledge, it is imminent if the learner has the skills to build connections both offline and especially online (Brown, 2006 ; Siemens et al., 2005; (Chau and Lee, 2014; Jansen and Merwe, 2015; Winn, 2003)

Along with navigation skills, interaction and collaboration are two essential skills for learners in the 21st century (Sahin, 2009; Jansen and Merwe ; Bell, 2010; Horvathova, Fadel, and Bodan, 2015). In the traditional view, the last two are conducted via classroom-related tasks. Today, knowledge currency can be kept up to date by making connections through tagging, linking, attaching, or through mash-ups technologies. Personal knowledge consists of a network, which feeds into organizations, which in turn feeds back into the network and then continues to provide learning to the individual (Siemens, 2004). This cycle of knowledge development, personal network to the organization allows learners to remain current in their field through the connections they have formed in.

The key skill is then navigation skills (Brown, 2006). Navigationism, the new learning paradigm introduced by Brown (2006), can serve as the umbrella perspective for developing educational policies, including those in the teaching and learning of English.

To further characterize learning in the beyond constructivism era, Siemens (2004) lists the principles excerpted from his work as follows.

1. Unlike constructivism, which states that learners attempt to foster understanding about meaning-making tasks, states that the meaning exists, the learner's challenge is to recognize the patterns which appear to be hidden, meaning-making and forming. Learning is a process of connecting nodes of information sources. Ability to see connections between fields, ideas, and concepts is a core skill.
2. Learning and knowledge reside in the diversity of opinions of others and they may reside in non-human devices.
3. Connections between specialized communities are important activities
4. Other people's experiences and hence other people become the surrogate for knowledge
5. The ability to recognize and adjust to pattern shifts is a key learning task. Learning is a process that occurs in uncertain environmental shifts that cannot be fully controlled by the individual.
6. The connections that enable people to learn more are more important than our current state of knowing.
7. The capacity to know more is more critical than what is currently known.
8. Nurturing and maintaining connections are needed to facilitate lifelong learning.
9. Up-to-date knowledge is the intent of all connected-based learning activities.
10. The meaning of incoming information is rooted in a shifting reality. What was true yesterday may be wrong today.

Connectivism presents a model of learning that acknowledges the rapid shifts in society where learning is no longer an internal, individualistic activity. It provides insights into learning *skills* and possible *tasks* needed for learners to flourish in a digital learning ecology (Siemens et al., 2005)

Similarly, Brown, (2006) suggested paradigmatic shifts occurring in teaching and learning (education).

1. From teaching-centeredness to learning-centeredness. Teachers do not really teach but facilitate students' learning.

2. From reproductive to productive learning. Learning is not about reproducing what the teacher has taught but about giving new contributions to knowledge and skills that a student can make.
3. From courseware to performance ware.

These principles are worth comparing to those of the learning language for communication found in the Communicative Language Teaching (CLT) views.

1.3 Communicative Language Teaching (CLT)

CLT was found in the British language teaching practice of the late 1960s. This approach aims to make communicative competence as initially introduced by (Hymes, 1972). The goal of language teaching is to develop mechanisms for the teaching of the four language skills. This approach acknowledges the interdependence of language and communication. The core notion of communicative competence is WHAT a learner should learn to be able to perform a real-life communicative event be it listening, speaking, reading, or writing. Other scholars like Canale and Swain and Celce-Murcia added the social domains to the list of competencies as the goal of CLT.

Thus, teaching English in CLT is essentially teaching the language for communication. However, the notion of communication can vary from one person to another. Savignon (1987) explained CLT as the elaboration and implementation of (1) programs and (2) methodologies that promote the development of functional language ability through learner participation in communicative events. Classrooms serve as an environment for the intended communicative events.

(Celce-Murcia, M., and Mcintosh, 1979) listed the constructivist elements in CLT:

(1) Pursuit of the student's interest is valued,
(2) Materials include primary (authentic) sources,
(3) Learning is interactive, building on what the student has already known,
(4) Teachers help facilitate to construct of students' own knowledge,
(5) Teacher's role is interactive, rooted in negotiation (thus communicative),
(6) Assessment includes student works, opinions, observations, as well as tests,

(7) Learning experience (process) is as important as the product,
(8) Knowledge is seen as dynamic and changing with experiences, and
(9) Students work primarily in groups of interactants.

These nine principles are about what and how to learn. The list has not accommodated the reality that learning takes place also extramurally and independently of class teachers. Learning has been shifting from learner-centeredness to learning-centeredness (Brown, 2006) Students' learning regardless of the locus and the means contributes to new knowledge and skills.

As for the constructivist activities in CLT (Klee, 1986) noted that in CLT, activities are selected according to the extent to which they engage the learner in meaningful and authentic language use. Classroom environment and activities are made similar to how the language is authentically used, which is not very possible.

It is about what and how to attain communicative language skills by creating an environment in the classroom to exercise shadow communicative events. (Richards, 2006)divides the roads to arrive at the intended communicative competence into two: the process and the product approaches. The process approach highlights teaching to be based on how language is acquired through the process-based methodologies. It focuses on creating classroom processes that are believed to best facilitate language learning. The instruction is provided through content teaching or task giving which is processed in class through, for instance, students' interaction and collaboration. The second road is product approaches: genre-based language teaching and competency-based instruction (CBI). Contents are provided as the learning materials serve as media to attain certain language knowledge and skills. This is about teaching language through content. These two types of approaches are also about principles to develop the 3 Ms: materials, methods, and measurement. These three shall be prepared in the language curriculum to facilitate learning through classroom interactions.

Brown (2007) noted CLT as an approach to language teaching methodology that emphasizes (1) authenticity, (2) interaction, (3) student-centered learning, (4) task-based activities, (5) communication for the real world, and (6) meaningful purposes. This concerns what and how to teach students to facilitate learning through classroom activities. The manipulation of a learning environment to attain

the CLT goals is central. The CLT approaches are composed of prescriptions to help develop instructional materials for students to learn more effectively with the classroom as the central environment. Instructional designs should be carefully developed for more effective language learning.

Basically, all these scholars in CLT suggest that students are in class and taught how they can function in communication events using the language either through speaking, writing, reading, and listening to be competent to perform language functions when in a real communicative event they will confront in real life through classroom-based best practices. And, the students' communicative competencies can be measured against linguistic, sociocultural, discourse, actional, and strategic competence (Celce-Murcia, 2007).

Teaching a language is teaching students for stronger communicative competencies(Wood, 2017). Other scholars have put efforts to define and redefine communicative competencies in CLT. Celce-Murcia presents a chronology about the development of perspectives of language learning competence from the period of Chomsky (1957-1965) to the latest competence model as illustrated below (copied from (Celce-murcia, 2007).

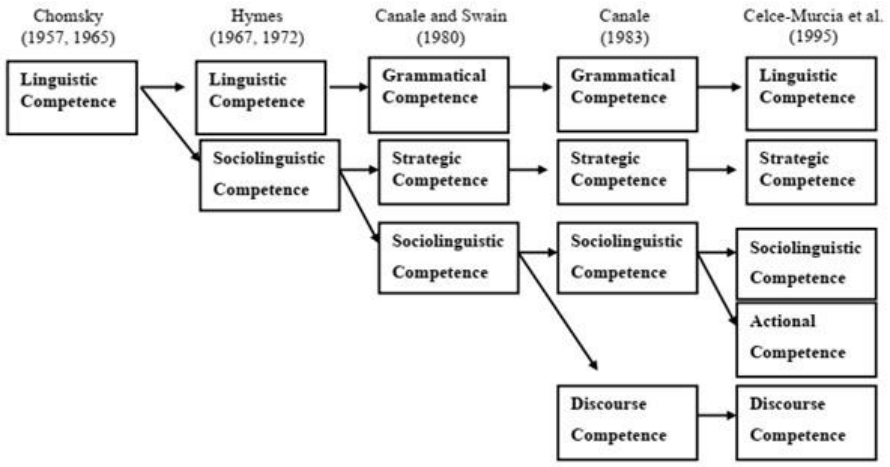

Figure 1. Chronology of development of perspectives of language learning competence From the period of Chomsky to Celce-Murcia et.al.

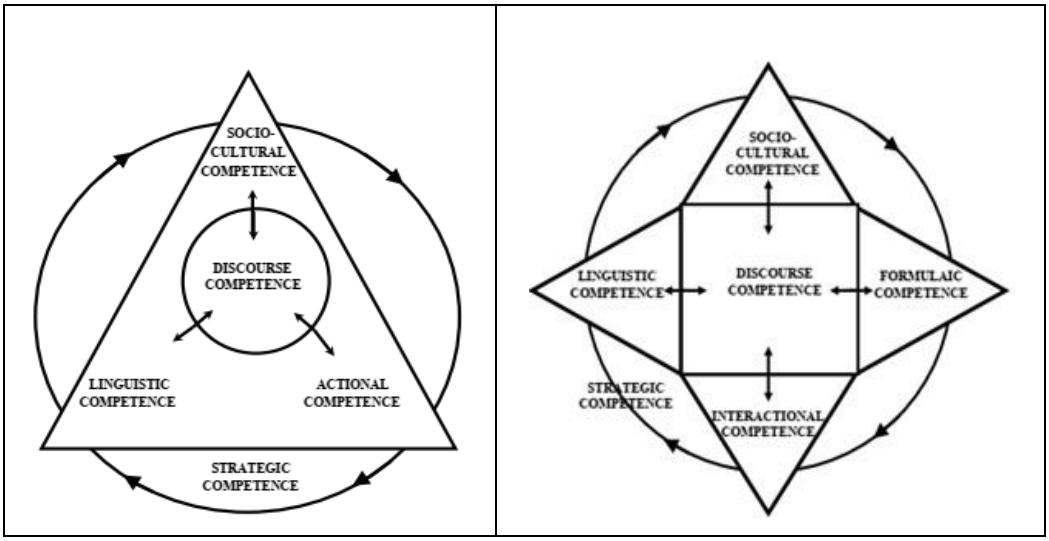

Figure 2. Language learning competence model from Chomsky to the 1995 model

The 1995 model was added with two other competencies: interactional competence and formulaic competence. As for the actional competence (ability to perform speech *acts*), it subsumes the interactional competence such as the ability to take turns in speech and the paralinguistic (language through gestures) competence.

The CLT models offered by (Hymes, 1972); (Canale and Swain, 1980); (Richards, 2006);and (Celce-Murcia, 2007). These scholars have not discussed the significant contribution of (1) digital skills and (2) navigation skills in the web learning ecology. These CLT models attend to the importance of language-related competencies. Knowledge sources are determined, teaching methods to impart communicative competence, that is the ability to use the language (English) for communication is selected. The approaches in CLT have not explained how learners get access to knowledge independent of the class instructions extramurally. The process as to how (e.g. digital strategies) and where (venues) learners get a hold onto knowledge beyond the students' intrapersonal knowledge and skills demand further clarification in the CLT models. How self life-experience and others' experiences help construct new knowledge and skills in a learner demands further constructs.

Brown (2006) suggests that a new Paradigm of Navigationism has emerged and shall become a reference for any changes in learning and teaching theoretical constructs. This is because the way people learn, the source of knowledge, the demanded skills, and the knowledge life, and the cognitive burden have been changing in the era of navigation. The 21st-century skills of communication, collaboration, creativity, critical thinking need to factor in the technological skills (including accessing skills, synthesizing, and authoring skills), Authoring tools and templates allow language teachers to develop their own materials and tests (Kukulska-Hulme et al., 2017 and Dooly, 2017). Other important skills that are not commonly attended yet need to be nurtured as part of technologies are networking or connecting skills.

Such the latest skills as organizing information to facilitate learning in a mash-up technology are necessary. (Solares, 2014) noted that Web technology provides a brand-new environment never spotted before. The "broadcast" and "store" mode of the web technology of information exchange has far developed into a "mass" Internet connectivity based on the collective actions of online user communities rather than based on individual users (Selwyn in (Oecd, 2010). The Web 3.0 technology allows users not only to broadcast but also to enrich and share (tag and link) information. This should ease up knowledge distribution and storage that should lessen some learning burden. With Cloud, for instance, the burden of memorizing learning input has been well alleviated. Students do not have to store every bit and piece of information in their memory. The technological appliances can perform this task for them. Attrition can be more avoided since the machine does not forget. And this way, the students can use the cost of opportunities to catch up with the rapid changes in the pursued knowledge.

Epistemologically, knowledge is derived in a new way today. It is found common that students today can be much more informed than their teachers. Students can also readily cross-check if the information given by their teacher is current and correct. The pedagogical, technological, and content knowledge (TPACK) of a teacher is challenged to the extreme that s/he may feel that their knowledge and skills today are obsolete or irrelevant tomorrow. This is what Siemens (2004) wrote as a tectonic wave of change, a slight change in one part of

the world can create a big tsunami in the other part of the world. Since knowledge can be available in the vicinity and in as far as the tip of the world, networking and connectivity are important and this implies that constructivism as a learning theory that concerns the intrapersonal learning processes and self experiences to construct knowledge needs to be revisited.

When the general constructivist learning principles of CLT and learning beyond constructivism are intersected, the proposed final learning principles in the CLT of English should be like the following.

Table 1. The Proposed Final Learning Principles in the CLT of English

Constructivism in CLT	**Current and future CLT**
What to learn: Language-related competencies – language components, language skills, and socio-cultural skills (Hymes, (1972), Celce-Murcia, 2007).	Learning to navigate, learning to network for new sources, learning from the omnipresent resources, both from machines (technologies) and humans (in-person communication exchanges)
How to learn: Std makes inferences from self-learning experience to build new knowledge (Ertmer, Jonassen, Celce-Murcia, and McIntosh). Learning is interpreting experiences into one's knowledge schemata.	Achievement is measured against the productive contribution a learner can make, instead of what the learner can reproduce (Brown, 2006).
How to teach: The teacher uses a methodology that emphasizes (1) authenticity, (2) interaction, (3) student-centered learning, (4) task-based activities, (5) communication for the real world, (6) meaningful purposes (Brown, 2007, Richards, 2006).	Changing teachers' roles, styles, and cultural expectations.

Teaching can be based on the process and product approaches (Richards, 2006).	Teaching can be of a composite
How to assess: Assessment includes student works, opinions, observations, as well as tests (Celce-Murcia and McIntosh)	approach: guided (teacher-centered) plus unguided (student-centered). The two work along to reach the optimized results.
Where to learn: The classroom venue is central in learning.	Classroom is no longer dominant in learning venues.

Borrowing Joyce et al. (2009) teaching model elements to compare the two groups of teaching and learning principles in the CLT and in the connectivism learning model, the results should look like the following.

Table 2. Comparison of Teaching and Learning Principles Between Cognitive Load Theory (CLT) and Connectivism

Teaching/learning in CLT	**Teaching/learning in the Future Connectivism**
Core focus: teaching language-related competencies - linguistic and social	Core focus; learning knowledge and skills in the digital era with a completely different learning ecology from that of a classroom-constructed setting.
Social system: teacher facilitator	Social system: teacher facilitator and coach
Principles of reaction: teacher provides learning materials, uses relevant teaching methodology, design and uses appropriate measurement tools.	Interaction must capture the true spirit of active learning in an authentic digital environment.

Students follow teachers' instruction through structured tasks rich with interaction and collaboration.	
Syntax: Plan the teaching – carry out the plan - check/evaluate the teaching/learning implementation using student works, opinions, observations, as well as tests (Celce-Murcia and (Celce-Murcia, M., and Mcintosh, 1979).	Personal knowledge feeds into organizations and institutions, which in turn feeds back into the network and then continues to provide learning to the individual (Winn, 2003).
Supporting materials: books in print and digital teaching aids, authoring tools, assessment tools. Sources of experiences can be the teacher, textbook, realia, computer software, or reflection on previous classroom or life experience.	1. Learning materials accessible in appliances (Siemens et al., 2005) 2. Digital teaching aids, authoring tools, assessment tools, learning tools, and learner tools required
Environment Setting: Classroom	Technological ecology to support knowledge construction. Humans and the environment are one entity. Each is dependent on the other. One reciprocally contributes learning to the other (Winn, 2003) The learning environment encompasses learning resources and technology in the societal and global contexts (Warger, T and Dobbin, 2009)

CONCLUSION

The connectivism era demands substantial changes in the teaching and learning of English. Humans and machines are getting significant learning factors. For this reason, language teaching needs redefinition as a result of the complicated, multiple, and diverse communication channels. Currently, boundaries between humans and machines are getting obscured with digitally-mediated interaction in the augmented artificial environments over humans' senses. People explore, use, share, and create content in ways fundamentally different from those found in the previous English training era. People learn language through both inter-people and people-machine traffic. Various digital venues develop and they converge and provide learners with opportunities to participate in the multiple channels of communication.

Consequently, learning input, process, and output should be redefined. New teaching models are created to suit the navigationism perspectives. The new models should include the following principles. First, core focus includes learning knowledge and skills in the digital era with a completely different learning ecology from that of a classroom-constructed setting; second, interaction must capture the true spirit of active learning in an authentic digital environment; third, learning materials are accessible in appliances; forth, digital teaching aids, authoring tools, assessment tools, learning tools, and learner tools are urgently required; fifth, humans and the environment are one entity. Each is dependent on the other. One reciprocally contributes learning to the other; sixth, one learning environment must encompass learning resources and learning technology used in the societal and global contexts.

A subsequent acclimatization of learning input, process, and output that corresponds with the new constructivist perspectives should help settle down the confusion over what, where, when, and how teaching and learning should be carried out within the premises of the connectivist principles.

This study recommends CLT in the beyond constructivism covering some shifts as follows. First, environment shift; learning takes place in formal and informal environments. Classrooms are the reductionistic format of environment predicted to represent how students will perform in the real world. As for environments

outside the classroom, they are composed of complex settings and unpredictable input often dissimilar to what students learn in class. Incorporating the two types of environments is beneficial. Students must confront real-life communication complexity ahead of time. Second, shift in the education parties; every learning environment consists of other people. Those involved in a classroom are homogeneous and those encountered outside classrooms are possibly more heterogeneous and teaching and learning must involve the two. Part of the students' knowledge is with other people. Skills can be brushed up when the two groups of people are involved. Third, knowledge source shift; teaching should also be about where and how knowledge can be attained independent of classroom instructions. Real-life communication phenomena can be unpredictable yet provide rich relevant information. Forth, teaching system shift. Due to the rapid knowledge changes, the dynamic mentoring system is suggested. It can no longer be simply "teach and leave". An educational system that integrates a rigorous coaching mechanism is in priority. Fifth, learning platform shift; since collective and dynamic interaction and collaboration are essential, a digital learning platform must accommodate this principle. Sixth, personalized learning shift; with communication technology, a learning management system can make learning more individualized. One student's needs can be different from the others. Seventh, evaluation system shift; Brown's performance-ware idea should provide ideas regarding learning measurement designs. Any language competence performance evaluation, which attends collaboration, communication, creativity, and creative thinking through making active connections to tap for relevant knowledge and skills are worth trying.

REFERENCES

Bada, S.O. and Olusegun, S. (2015). The psychogenisis of Knowledge and its Epistemological Significance. *Journal of Research and Method in Education*, *5*(6), 23–34. https://doi.org/10.9790/7388-05616670

Bell, S. (2010). Project-Based Learning for the 21st Century: Skills for the Future. *The Clearing House: A Journal of Educational Strategies, Issues and Ideas*, *83*(2), 39–43. https://doi.org/10.1080/00098650903505415

Brown, D. H. (2007). First Language Acquisition. Principles of Language Learning and Teaching. In *Language Learning* (5th ed.). Pearson.

Brown, T. H. (2006). Beyond constructivism: Navigationism in the knowledge era. *On the Horizon*, *14*(3), 108–120. https://doi.org/10.1108/10748120610690681

Canale, M., and Swain, M. (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics*, *1*(1), 1–47. https://doi.org/10.1093/applin/I.1.1

Celce-Murcia, M., and Mcintosh, L. (1979). *Teaching English as a second or foreign language*. Newburrry House.

Celce-murcia, M. (2007). Celce-Murcia, M. (2007).pdf. *Intercultural Language Use and Language Learning*, 41–57.

Chapelle, Carol A. and Sauro, S. (2017). *The Handbook of Technology and Second Language Teaching and Learning*. https://doi.org/10.1002/9781118914069.ch12

Chau, J., and Lee, A. (2014). Technology-enhanced language learning (TeLL): An update and a principled framework for English for Academic Purposes (EAP) courses / L'apprentissage des langues assisté par la technologie (TeLL): mise à jour et énoncé de principes pour les cours. *Canadian Journal of Learning and Technology / La Revue Canadienne de l'apprentissage et de La Technologie*, *40*(1), 1–24. https://doi.org/10.21432/t2z59t

Doughty, C. J., and Long, M. H. (2008). The Handbook of Second Language Acquisition. In *The Handbook of Second Language Acquisition*. https://doi.org/10.1002/9780470756492

Dudeney, G., & Hockly, N. (2012). ICT in ELT: How did we get here and where are we going? *ELT Journal*, *66*(4), 533–542. https://doi.org/10.1093/elt/ccs050

Ertmer, Peggy A. and Newby, T. J. (2013). Behaviorism, Cognitivism, Constructivism: Comparing Critical Features From an Instructional Design Perspective. *Performance Improvement Quarterly*, *6*(4), 50–72.

Frielick, S. (2004). Beyond constructivism: An ecological approach to e-learning. *Beyond the Comfort Zone: Proceedings of the 21st ASCILITE Conference*, *Brown 2000*, 328–332. http://www.ascilite.org.au/conferences/perth04/procs/frielick.html

Halverson, R., and Smith, A. (2009). How new technologies have (and have not) changed teaching and learning in schools. *Journal of Computing in Teacher Education*, *26*(2), 207–232.

Horvathova, M. Fadel ,C. Bialik M. Bodan, M. (2015). Character education for the 21st century. *Center for Curriculum Redesign*, *February*, 25.

http://curriculumredesign.org/wp-content/uploads/CCR-CharacterEducation_FINAL_27Feb2015.pdf

Hosenfeld, C., O'Malley, J. M., and Chamot, A. U. (1992). Learning Strategies in Second Language Acquisition. In *The Modern Language Journal* (Vol. 76, Issue 2, p. 235). https://doi.org/10.2307/329782

Hymes, D. (1972). On Communicative Competence In: J.B. Pride and J. Holmes. *(Eds) Sociolinguistics. Selected Readings*, 269–293.

Jansen, C., and Merwe, P. van der. (2015). Teaching Practice in the 21st Century: Emerging Trends, Challenges and Opportunities. *Universal Journal of Educational Research*, *3*(3), 190–199. https://doi.org/10.13189/ujer.2015.030304

Jonassen, D. (2013). Designing constructivist learning environments. *Instructional-Design Theories and Models: A New Paradigm of Instructional Theory*, *2*, 215–239. https://doi.org/10.4324/9781410603784-16

Joyce, B., and Weil, M. (2003). Models of Teaching. In *Prentice Hall of India*.

Joyce, B., Weil, M. and Calhoun, E. (2009). *Models of Teaching* (J. W. Johnston (ed.); 5th ed.). Pearson.

Klee, C. A. (1986). Book Review of Approaches and methods in language teaching by Jack C. Richards and Theodore S. Rodgers. *Modern Language Journal*, *70*, 420.

Kukulska-Hulme, A., Lee, H., and Norris, L. (2017). Mobile Learning Revolution: Implications for Language Pedagogy. *The Handbook of Technology and Second Language Teaching and Learning*, 217–233.

Kumaravadivelu, B. (1994). The Postmethod Condition: (E)merging Strategies for Second/Foreign Language Teaching. *TESOL Quarterly*, *28*(1), 27. https://doi.org/10.2307/3587197

Little, D. (2007). Language Learner Autonomy: Some Fundamental Considerations Revisited. *Innovation in Language Learning and Teaching*, *1*(1), 14–29. https://doi.org/10.2167/illt040.0

Lyster, R., and Sato, M. (2013). *Chapter 4. Skill Acquisition Theory and the role of practice in L2 development*. *May 2013*, 71–92. https://doi.org/10.1075/aals.9.07ch4

Mitchell, Rosamond and Myles, F. (1998). *Second Language Learning Theories* (1st ed.). Hodder Education Publishers.

Mitchell, R., Myles, F., and Marsden, E. (2013). Second language learning theories.

Second Language Learning Theories, 1–379. https://doi.org/10.4324/9780203770795

Muna Aljohani. (2017). Principles of "Constructivism" in Foreign Language Teaching. *Journal of Literature and Art Studies*, *7*(1), 97–107. https://doi.org/10.17265/2159-5836/2017.01.013

Oecd. (2010). inspired by Technology , Driven by Pedagogy Inspired by Technology. In *Educational Research*. http://www.oecd-ilibrary.org/education/inspired-by-technology-driven-by-pedagogy_9789264094437-en

Richards, J. C. (2006). Communicative Language Teaching Paradigm. In *Cambridge University Press* (Vol. 1, Issue 1).

Sahin, M. C. (2009). Instructional design principles for 21st century learning skills. *Procedia - Social and Behavioral Sciences*, *1*(1), 1464–1468. https://doi.org/10.1016/j.sbspro.2009.01.258

Savignon, S. J. (1987). Communicative Language Teaching. *Theory Into Practice*, *26*(4), 235–242. https://doi.org/10.1080/00405848709543281

Schneider, W., and Shiffrin, R. M. (1977). Controlled and automatic human information processing: I. Detection, search, and attention. *Psychological Review*, *84*(1), 1–66. https://doi.org/10.1037/0033-295X.84.1.1

Siemens, G. (2005). Connectivism: A Learning Theory for the Digital Age. *International Journal of Instruction Technology and Digital Learning*, *January*.

Siemens, G., Onderwijsdagen, S., Age, D., Design, E., Downes, S., & Verhagen, P. (2005). Connectivism: A NewLlearning Theory ? *Journal of Instructional Technology and Distance Learning*, *2*(1), 1–5. http://elearning.surf.nl/e-learning/english/3793

Solares, M. E. (2014). Textbooks, tasks, and technology An action research study in a textbook-bound EFL context. In *Task-Based Language Teaching* (Vol. 6, pp. 79–114). https://www.scopus.com/inward/record.uri?eid=2-s2.0-85150152727&doi=10.1075%2Ftblt.6.04sol&partnerID=40&md5=f80de84badc027b7a429a26be4c2668e

Tauli, V. (2014). Language planning. *Issues in Sociolinguistics*, 245–266. https://doi.org/10.1515/9783110806687.245

Thijssen, T. J. P., Maes, R., and Vernooij, F. T. J. (2002). Learning by Sharing: a Model for Life-Long Learning. *Educational Innovation in Economics and Business VI, January 2002*, 189–198. https://doi.org/10.1007/978-94-017-1390-0_13

Warger, T and Dobbin, G. (2009). Learning environments: Where space, technology, and culture converge. *EDUCAUSE Learning Initiative.*

Winn, W. (2003). Beyond constructivism: A return to science-based research and practice in educational technology. *Educational Technology*, *43*(6), 5–14.

Wood, J. F. (2017). Errors in Second/Foreign Language Learning and Their Interpretations. *Education and Linguistics Research*, *3*(1), 1. https://doi.org/10.5296/elr.v3i1.10251

Yogyakarta, U. N. (2018). *Ringkasan artikel jurnal hasil penelitian pembelajaran bahasa*. *April*.