8 CRITICAL THINKING-BASED INSTRUCTIONAL STRATEGIES FOR SECOND LANGUAGE LEARNERS IN ORAL COMMUNICATION CLASSROOMS

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1. INTRODUCTION

The pedagogy described in this paper has its roots in a Fulbright-Hayes research project involving English majors at Beijing Foreign Studies University (hereafter BFSU). The research involved an experimental oral English class during the 2007-2008 school year. During initial assessments, the majority of English majors taking the class expressed a common opinion. They found oral English classes both frightening and boring. Since oral communication development often lags behind writing, even advanced second language (L2) students, who may be confident in their abilities to follow grammar rules and write papers effectively, often find themselves with powerful apprehension when their ideas need expression in spontaneous oral communication (Rybold, 2008). For many students, speech anxiety exists even in their first language (L1) (Lucas, 2015). Therefore, dread often accompanies speaking assignments. On the other side of the lectern, as passive audience members, students are expected to sit quietly and watch the other students deliver their speeches. As they wait for their own turns, little of this passive activity engages them.

For the BFSU students, this meant they often waited for three or four class periods throughout the semester to speak. The People's Republic of China (hereafter PRC) is not unique in this curricular approach. This same model dominates traditional public speaking classes throughout the United States (hereafter the US). Students sit for an entire term, as passive audience members, often speaking only once per month. In a study conducted for the National Communication Association, 78% of US college public speaking classes required four or fewer graded speeches (Morreale, Worley, & Hugenberg, 2010). This traditional method has one student speaking to the class, with the instructor providing feedback. Due to time constraints, instructors often provide only written feedback.

In the PRC, the Fulbright-Hayes research project afforded an opportunity to abandon the traditional model of development. Instead, students in the experimental oral English class were treated as if they were a competitive debate team in the US. This pedagogy required each student to give a weekly speech on current events during a 30-minute, one-on-one coaching session. After receiving oral feedback, students would refine their speeches and present them during class time in collaborative work groups of four. After group and self-assessments, they would share their research with the entire class, have practice debates, and then use those same topics for competition at debate tournaments against English learners from other universities.

The genetic methodology of the research found that students became better speakers and better thinkers (Rybold, 2008; Rybold, 2011). At the end of the class, during exit interviews, the most commonly expressed attitude towards public speaking became

enjoyment. The dynamic analysis of communication competence after experiencing this method found skill development and increased confidence in all students.

In order for other instructors to use the pedagogy developed as a result of the research, a textbook for Chinese non-English majors was published (Rybold, 2010). Even though this pedagogy proved highly effective and the textbook used by thousands of students, the research also revealed an overwhelming limitation. Simply, the pedagogy became too labor intensive for the vast majority of language instructors. Since the research project involved teaching only one section of 24 students, meeting with the students in class for three hours and out of class for 12 hours of coaching was not a burden. However, for another instructor, duplicating the pedagogy with several classes would be overwhelming. Additionally, tournament activities involved hundreds of hours of preparation and administering that the average teacher does not feel free to give (Rybold, 2008).

My three decades of debate expertise made facilitating the class, coaching, and competition easy processes. Conversely, without extensive training in debate coaching, others who read this research may not be able to implement the methods. Hence, while debating praxis, with its depth of concepts and extensive practice demonstrated a highly effective route to becoming a better speaker and a better thinker, it is not pragmatic for wide-scale usage. Therefore, when I returned to the US, I sought to develop something more useful for oral communication instructors.

1.1. THE IRVINE VALLEY COLLEGE PROJECT

Informed by Sociocultural Theory (hereafter SCT) in Applied Linguistics, critical thinking (hereafter CT) system concepts, research in the PRC, and competitive speech practices, I abandoned traditional methods and implemented an interdisciplinary pedagogy for teaching classes on my home campus in the US – Irvine Valley College. In these public speaking classes, I observed that L1 and L2 student development was much stronger with the new strategies. In order to get some feedback on the new methods, I invited colleagues, from my campus and others, to observe. They, as well, saw strong results in the classroom; results they freely admitted had not been achieved with their own traditional methods. This led them to abandoned traditional methods as well and opt for the new interdisciplinary pedagogy of what became the Irvine Valley College Project (hereafter IVCP), also known as "The Project" (Rybold, 2010b).

Since 2008, the IVCP has evolved through instruction in hundreds of public speaking classes at two-year community colleges in California. Because public speaking classes satisfy California General Education requirements for Associate of Arts degrees and for transfer to universities, these classes had diverse populations of L1 and L2 students with a plethora of majors. Instructors using the IVCP reported substantial increases in speaking skills in all populations. Not a single one of the instructors who tried the IVCP has returned to a traditional pedagogy.

As we shared our classroom experiences, this cohort of IVCP instructors, discovered that none of us had an identical pedagogy. In some cases, instructors did not know how to operationalise certain activities and used alternatives. This experimentation led to the development of new strategies. As I heard more of their new strategies I concluded that

some were improvements over my way of teaching, so I adopted them in my classes. Other times, friendly debates on the appropriateness or effectiveness of our differences would spontaneously occur.

With a dozen instructors using the project method on seven campuses, the maturity level of the pedagogy became such that I took a sabbatical leave to write an instructor guide (Rybold, 2015). The guide was designed to inform new instructors. The book documented the way I teach as the baseline of the project. After interviewing and observing the other instructors using project methods, I also included their variations for consideration by readers.

As action research, the IVCP instructor guide was intended to be used as a staff development tool detailing the specific strategies for implementation in public speaking classes. However, since the cohort found the IVCP to be successful with ESL and international students in the US, this "how to" guide should easily transfer over to oral English classes for EFL learners as well. Indeed, many instructors found that the concepts and activities appropriately transferred to a variety of other classes. The IVCP has found its way into interpersonal communication, intercultural communication, persuasion, and of course, argumentation and debate classes.

Rather than the excessive work load of teaching as a debate coach, these pedagogies start with a premise that classes should be labour intensive for students, not instructors (Paul, 2007). The need for this emphasis has strong support. A specific example for EFL graduates was presented by Thorne, Reinhardt and Golombek (2008) concerning International Teaching Assistants (ITA) in the US. They cited the "so-called ITA problem" consisting of inadequate oral communication skills in higher education. Their research supported the use of conceptual frameworks along with specific language choices, discovered through corpus studies. Equally important, their findings stressed the quantity and quality of explicit instruction, as they claimed that "propagating high frequency and high utility constructions across divergent representational media helps to make linguistic resources more salient and ultimately more readily internalizable" (Thorne, Reinhardt, & Golombek, 2008p. 278). Drawing on the works of Vygotsky (1978, 1981) and Gal'perin (1967, 1979) they recommended a conceptual framework with the provision of explicit conceptual knowledge, contextualised examples and opportunities for private rehearsal and public performance in order to increase self-regulation. Ultimately, the conceptual framework should provide "greater linguistic resources" to assist the students in "their movement towards self-regulation in the many speech situations expected in academic professional life" (Thorne, Reinhardt, & Golombek, 2008, p. 278).

Arum and Roksa (2011), in their meta-analysis, *Academically Adrift*, described undergraduate education in the US as insufficient, especially in the first two years of college, in developing CT, complex reasoning and written communication. Yet, they also found that academically rigorous instruction could improve results. In order to enhance academic requirements, they recommended that faculty should "come together to ensure that coursework is appropriately demanding and requires significant reading, writing, and critical thinking" (Arum & Roksa, 2011, p. 129). Criteria recommended per course include: reading 40 pages per week, writing 20 pages per semester, using higher order thinking skills and participating in engaging activities with peer collaborative learning

(Arum & Roksa, 2011). A specific pedagogical model, drawing on SCT, was provided by Johnson (2009). This Dialogic Activity Model recommended a pedagogy within SL teaching classrooms that parallels the IVCP. Johnson aimed to reconceptualise teacher development towards scientific concepts by detailing specific pedagogical steps involving a series of dialogic activities. She specified the depth of interaction through ten distinct and sequenced activities in her pedagogical model.

A major premise of the IVCP has students speaking in collaborative work groups during every class session. Most of this oral communication involves using CT as a system of analysis and evaluation of the course content and activities. Over the term, each student speaks approximately 130 times, either in speeches to small groups or rubric-based assessments of other students. Students also write in excess of 25 pages for the term and read over 40 pages per week (Rybold, 2015).

Both pragmatic and academic objectives motivate this paper. The pragmatic objective of educating language instructors seeks to persuade them to employ specific classroom strategies for increasing of the quality and quantity of speaking activities for the development of CT in their students. These strategies have been described in great detail in the open source instructor guide (Rybold, 2015) written to explicate the IVCP available at: http://www.ivc.edu/faculty/grybold/Pages/default.aspx.

1.2. THE PURPOSE OF THE ARTICLE

The academic purpose of this article seeks to justify the pedagogy of the IVCP. In order to accomplish this objective, the paper begins with a discussion of differences in thinking. Next, various CT approaches are detailed. Finally, principles behind the praxis (Lantolf & Beckett, 2009) of the IVCP, with its dialectic unity of concepts and activities, point the way to the changes desired for student development in speaking and thinking.

2. DIFFERENCES IN THINKING

The spark behind the Fulbright-Hayes research project, whether or not oral communication thinking in another language could be developed, was ignited by Richard Nisbett's (2003) *The Geography of Thought*. Throughout the book Nisbett expounded on the thesis that Asians and Westerners think differently, especially in regards to analytical thinking skills. Nisbett cited Kim's (2001) dissertation work as a strong support of these analytical differences. Kim (2001) found that requiring Asians and Asian Americans to verbalise their thinking when solving problems had a deleterious effect on accuracy, while speaking aloud had no effect on the performance of European Americans. Nisbett was convinced of the different nature of thought of Asians and Westerners and observed that "its practical implications are extremely important" (p. 211). Other thinking differences can be explored by looking to cultures, languages and education.

2.1 CULTURAL THINKING DIFFERENCES

Cultural differences in thinking have been well documented. Gudykunst and Kim (2003) compared individualistic and collectivistic cultures. Individualistic cultures focus on scientific inductive thinking "as logical, analytic, action mode, and linear" (p. 206). Conversely, collectivist cultures are considered as "relational, integrative, holistic and intuitive" (p. 207).

Talking differences also appear in the research. European Americans see talk as more important and enjoyable than native-born Chinese or Chinese Americans (Gudykunst & Kim, 2003). "European Americans are more likely than the other two groups to initiate conversation with others and to engage in conversations when opportunities present themselves…. European Americans also see talk as a means of social control and native-born Chinese see silence as a control strategy" (Gudykunst & Kim, 2003, p. 222). These thinking and talking differences become more readily apparent when international students share contexts with Westerners. Vandermensbrugghe (2004, p. 421) in a critique of the Anglo Saxonisation of education indicated that:

> Whatever the type or level of critical thinking demanded, extensive background knowledge is required to access a common sense understanding of the practice of critical thinking. International students often do not possess this background. The problem this creates is compounded by the complexity of English argumentation skills. A good understanding of English is a prerequisite both to access background knowledge and to express argumentation itself. As Davies (2000) argues, for many students coming from a non-English-speaking background understanding, constructing and criticizing arguments represents a serious problem.

Therefore, even though students may possess English skills strong enough to qualify for international study, they may not be able to engage in expressing or assessing arguments in the L2 to meet expectations of them. This may lead to major misconceptions. As Long (2003, p. 231) posited,

> It is commonly observed that Japanese have difficulty expressing their opinion (one likely result of the collectivistic nature of Japanese society). This is often discussed in contrast to Americans, who are typically characterized as highly opinionated (a likely result of the individualistic focus of American society). While this characterization seems to be largely accurate, it unfortunately contributes to the common misconception regarding Japanese (and other Asian) EFL [English as a Foreign Language] students that they have poor critical thinking skills.

While arguing for various ways of knowing, Long (2003, p. 232) conceded a concern of thinking while speaking for Asian students:

> For the reasons discussed above, it is inaccurate to characterize Japanese (and other Asians) ESL/EFL students as somehow critical-thinking-impaired. However, we cannot overlook the fact that Japanese students do seem to have a hard time expressing their opinion.

2.2 SECOND LANGUAGE DIFFERENCES

Research in Second Language Acquisition (hereafter SLA), especially in private speech, clearly identifies a gap between L1 and L2 oral communication in the expression of thought. The general conclusion is that oral communication in L2 represents a unique difficulty. In a replication of the aforementioned Kim (2001) study, Rybold (2010a) found that the Chinese university English majors, when solving non-verbal puzzles while orally processing in English, were 24.5% less accurate in their answers than the group who solved the puzzles while processing in Mandarin. These findings tend to support a L2 variable rather than the cultural conclusions of Kim (2001, 2002). In other words, orality in L1 for Chinese students had no significant effect on efficacy over silent problem solving, but when they had to solve the puzzles using oral English they could not think as effectively.

In studying problem-solving tasks in a foreign language, Centeno-Cortes and Jimenez-Jimenez (2004) found that even advanced L2 learners shifted to speaking in their L1 when problems became too difficult. When students continued to use their L2 they would often give up or come to a wrong solution. Lantolf and Thorne (2006, p. 94) conjectured from the above study that

> …this activity itself required speakers to focus a fair amount of their cognitive effort on generating self-directed speech in the L2, in a sense, producing Spanish which became to some extent a subgoal of their speaking activity. They were therefore unable to use it as a cognitive tool to solve the problem.

This form of entrenched L1 cognitive processing represents a controversy within SLA. As Lantolf (2006, p. 71) cited Ushakova (1994), who argued that

> … although L2 speakers can use their new language for social communication they cannot use it as a psychological artifact to mediate their thinking. According to Ushakova, 'the second language is incorporated into the classification system already available in the first language, relies on the previously developed semantic system [L1 inner speech], and actively employs first language phonology'.

Even though Lantolf took issue with the conclusion and cited studies that do not support Ushakova (Ahmed, 1994; Appel & Lantolf, 1994; Frawley & Lantolf, 1985; Lantolf & Frawley, 1984; McCafferty, 1994), he qualified his rebuttal through an explanation that the variables of contexts from foreign language to an immersion L2 setting may account for the differences. Furthermore, he added to the controversy for this phenomenon by providing an alternative explanation concerning working memory:

> … L2 speakers appear to have problems sustaining L2 private speech and reaching a successful task outcome. This is most likely because of the psychological status of the L2: Although it might be used for fluent and proficient social speech, the L2 (at least in the studies conducted to date) seems to take up a sufficient amount of a speaker's attention so that it cannot fully serve to mediate cognition (Lantolf, 2006, p. 74).

These psychological explanations for diminished L2 oral communication efficacy can be supplemented with other variables that can influence orality. Liu's (2002) research on the reticent nature of Chinese students in L2 classrooms provided five factors to further explain reasons for lower levels of oral communication (see Table 1).

Table 1. Factors of reticence in Chinese students

Factor	Examples
Cognitive factors	Prior learning experience, background knowledge, or mental readiness
Pedagogical factors	Teaching styles, participation as a course requirement, and opportunities to speak up
Affective factors	Anxiety, motivation, or risk-taking
Sociocultural factors	Facework, showing respect for others by keeping silent, or the norm of being a good listener
Linguistic factors	Proficiency in the target language, communicative competence, or accent

While these "causes" of silence in the classroom uniquely interact within each individual with varying degrees of influence on communication and thinking; it is important to understand whether, in spite of the influences, students can still develop in regards to oral communication CT. Reticence factors notwithstanding, the focus on second language (SL) education may hold the key for this development and diminishing the effects of the differences in thinking.

2.3 SECOND LANGUAGE EDUCATION

In order to meet the needs for learning oral thinking, pedagogy in SL education has evolved over the years to emphasise helping students to become more "communicative". As McCafferty (1994) wrote, "currently, there are many voices in the L2 literature that call for an approach to language teaching that emphasizes use of the L2 for 'real' communication such as found in The Natural Approach, Counseling Learning, Strategic Interaction, and similar methodologies" (p. 434). Thorne (2004, p. 51) documented the continuing trend in SL teaching:

> Historically, language educators have witnessed radical pedagogical shifts such as the wide-spread move from the grammar-transition to the audio lingual method in the 1950s and 60s and the overwhelming trend toward "communicative language teacher" in the 1980s and 90s".

More recently, project based, collaborative methods have been found promising in the development of critical thinking in L2 (Rybold, 2011). Project-based learning research has found greater learners' positive learning attitude and academic atmosphere as well as improving general English communicative abilities (Kim, 2014). Mehta and Al-Mahroui

(2014) encouraged continuous practice opportunities, both oral and written, as a way for students to develop CT.

3. CRITICAL THINKING APPROACHES

Since the "development of higher mental functioning" (Lantolf & Thorne, 2006, p. 17) serves as a primary goal of linguistic activity within SCT, establishment of a consistent construct has importance. Researchers have used a variety of terms to explain these higher mental functions: higher order thinking (Lewis & Smith, 1993), higher order cognitive functions (Thorne, 2004), higher-order mental processing (Swan & Lapkin, 2000), critical thinking (Atkinson, 1997) and problem solving (Alijafreh & Lantolf, 1994).

Recent efforts in the PRC have worked towards an academic understanding of CT. Wen, Wang, Zhao, Liu and Wang (2009), for example, in a meta-analysis, recommended a conceptual framework for assessment of students' CT skills at meta-critical and CT levels. Further divisions offered affective and cognitive categories with the research establishing CT cognitive skills such as analysis, inference and evaluation (Wen, Wang, Zhao, Liu, & Wang, 2009).

Language differences may require further academic clarification to prevent the misconceptions of the negativity of CT. Being a good critical thinker should not be confused with being a *criticiser* in a negative sense. Tan (2006, pp. 96–97) sets an appropriate positive perspective for being a critical thinker:

> While questioning is important in critical thinking, this does not mean that students are encouraged to question everything. Neither is critical thinking equated with criticism where the student becomes judgemental [sic], negative, harsh, mean-spirited and cynical, doubting or discounting everything he/she reads and hears.

Since CT is often translated as a pejorative, alternatives need exploration. For example, in Mandarin, "pipanxing siwei" which translates into "criticise-type thinking" is a common negative term used for CT. To advance an appropriate academic purpose of CT, Rybold (2011) recommended "gao cengci siwei" (higher order thinking) for increased precision. The search for alternative language was also supported by Wen, Wang, Zhao, Liu and Wang (2009), who recommended the use of the term "si bian" (analytical thinking) to reduce the confusion of the negative translation.

Regardless of the term employed, the research covered in this paper clearly points to CT as a solid and obtainable educational goal for the development of students who wish to speak more analytically regardless of the language employed. (For a discussion of the controversies in CT instruction in SLA, see Rybold, 2011). Additionally, a strong need for staff development exists for instructors to be able to mediate CT. Paul, Elder and Bartell (1997, p. 18) documented CT deficiencies in a study of instructors at 66 institutions of higher education:

> Though the overwhelming majority (89%) claimed critical thinking to be a primary objective of their instruction, only a small minority (19%) could give a clear explanation of what critical thinking is. Furthermore, according to their

answers, only 9% of the respondents were clearly teaching for critical thinking on a typical day in class.

In order to provide a clear construct of CT, this review starts with an understanding of Bloom's Taxonomy, and then builds on the concept with a discussion of the various approaches to CT instruction. Finally, a full explication of the systems approach provides the definition and contextualisation employed in the IVCP pedagogy.

3.1 BLOOM'S TAXONOMY

One of the earliest writers in categorising CT was Benjamin Bloom (1956, as cited by Zohar & Dori, 2003) who provided six levels in his taxonomy of thinking. While Zohar and Dori (2003, p. 147) offered a legitimate critique and objected "to the hierarchies of educational goals implied by Bloom's work", nonetheless, they found that Bloom's taxonomy "specifies cognitive levels that are clear, succinct and still useful" (p. 147). The lower three levels on the hierarchy involve memorisation and recall of information: knowledge, comprehension and application. The higher order of thinking involves analysis, synthesis and evaluation (Zohar & Dori, 2003).

Lewis and Smith (1993, p. 136) synthesised Bloom's taxonomy by providing that "higher order thinking occurs when a person takes new information and information stored in memory and interrelates and/or rearranges and extends this information to achieve a purpose or find possible answers in perplexing situations". This necessarily means moving away from "only routine or mechanical application" of memorised information towards challenging "the students to interpret, analyze, and manipulate information" (citing Newman, 1989, p. 136). In particular, this process is referred to as reasoning or productive behaviour. Therefore, it would not be considered higher order thinking if an answer could be provided through a simple recall of information (Lewis & Smith, 1993).

3.2 TRADITIONAL APPROACHES TO CRITICAL THINKING INSTRUCTION

The three major approaches to critical thinking instruction that have surfaced over the past few decades provide depth to the conceptual understanding of CT. A skills approach relies on long-term development. A knowledge approach requires field-specific concept learning. The dispositional approach involves the motivations to be a better thinker.

3.2.1 SKILLS APPROACH

California was one of the first entities to pass educational standards requiring CT in all classrooms. According to Feare (1992), many schools in their search to meet California educational standards established in 1987 were guided by Glock's skills approach that "lists specific reasoning skills that can serve as operational criteria: analyze, explain, deduce conclusions, identify, anticipate, or pose problems, synthesize, evaluate, diagnose, compare and contrast, justify, apply principles, and solve unfamiliar problems" (p. 93). In response to the California's Title V requirements, Facione (1989) documented the

consensus list of skills developed by the American Philosophical Association (see Table 2).

Table 2. Consensus list of skills

Skill	Example
Interpretation	Categorisation, decoding, clarifying
Analysis	Examining ideas, identifying arguments, deconstructing arguments
Evaluation	Assessing claims, assessing arguments
Inference	Querying, conjecturing, drawing reasoned conclusion
Explanation	Stating results, justifying procedures, presenting arguments
Self-regulation	Self-examination, self-correction

Hanley (1995, p. 68) added metacognitive skills into the definition, arguing that to "become a better critical thinker, one not only must develop expert thinking skills, but also become an expert at choosing the best skills for a particular situation". He divides CT into two component skills: cognitive and metacognitive. A critical thinker must not only have the proper tools, but also the ability to select the relevant tools for the situation.

3.2.2 KNOWLEDGE APPROACH

A skills approach, while deep in establishing thinking goals, requires additional dimensions to be complete. As mentioned above, in Bloom's taxonomy, knowledge is a necessary lower level in the thinking process. Bailin, Case, Coombs and Daniels (1999) expanded on the knowledge approach to characterise a critical thinker. They referred to five kinds of intellectual resources possessed by critical thinkers (see Table 3).

Table 3. Intellectual resources in critical thinking

- Background knowledge
- Operational knowledge of appropriate standards of good thinking
- Knowledge of key concepts
- Possession of effective heuristics (strategies, procedures, etc.)
- Certain vital habits of mind

3.2.3 DISPOSITIONAL APPROACH

The motivational effects of certain vital habits of mind could also point to a dispositional approach to understanding CT. A justification for such an approach is found in Urdan and Giancarlo (2001) wherein they claimed that "Any conceptualization of critical thinking that focuses exclusively on cognitive skills is incomplete. A more comprehensive view of critical thinking must include the acknowledgment of a characterological component, often

referred to as a disposition, to describe a person's inclination to use critical thinking…" (p. 44). Facione (1989) compared this inclination to affective dispositions (see Table 4).

Table 4. Affective dispositions of critical thinking

• Critical spirit
• Probing inquisitiveness
• Keenness of mind
• Zealous dedication to reason
• Hungry eagerness for reliable information

The three approaches above paint a broad picture of what it means to be a critical thinker and complement each other during the process of development. In other words, students increase their sophistication in using CT skills as they gain knowledge of thinking and their individual dispositions change towards higher order thinking. Therefore, these three approaches establish strong implicit and long-term goals for the outcomes of instruction.

Yet, skills, knowledge and dispositions seem to imply that CT can only be the end result of years of mediation and activity. Therefore, this long-term developmental mindset may decrease its ready accessibility and applicability in the earlier stages of developing students. This paper acknowledges that skills, knowledge and dispositional approaches are important characteristics of understanding CT and supports their long-term development. However, rather than the perception as a long-term endeavour, CT as a system should be placed inside the reach of every individual classroom.

3.3 SYSTEMS APPROACH

The construct of CT as a system (Paul, 2007) provides a conceptual alternative to skills, knowledge and dispositional approaches. In this system, CT is outlined as analytical elements and evaluative standards that can be explained in a single session. The elements pinpoint where analysis can be undertaken, while the standards guide evaluation of analysis. This system allows for an interaction in CT that can take place on introduction of the model, and then become more sophisticated with usage.

Therefore, Paul (2007) claimed, as an explicit system, CT should be taught in the first week of class in every subject. In this way, CT can improve access of the thinking involved with the class in such activities as reading and help to assess the thinking in the class in such activities as presentations by other students. While providing an appropriate universal model may be a call for reform across the curriculum, as mandated in California law, a systems approach can provide a pedagogical alternative for individual classrooms. A systems model can be presented as a parsimonious explication of CT. For example, in the hundreds of times CT as a system has been explained in IVCP classes it takes approximately one hour with concept explanations and activities (Rybold, 2015). The primary strength of a system approach provides students with immediate access to CT as an assessment tool. An additional benefit in using CT as a system is the provision of a

common language for analysis and evaluation that can be used in every classroom setting. Therefore, the systems approach to CT serves as an immediate, explicit means so that students can then develop, over the long term, the skills, knowledge and dispositions mentioned above as end goals.

3.3.1 DEFINITIONAL VARIATIONS

To support the systems approach, Paul (2007) explained that different definitions for CT can be usefully applied in different situations. Since some people think of critical thinking as negative thinking, instructors should try to be as intuitive as possible and eliminate jargon. For example, Paul (2007) explained that instructors should offer a variety of definitions and let the students pick one for an engagement exercise (see Table 5).

Table 5. Definitional examples of critical thinking

• Thinking about thinking
• Thinking about thinking in order to make thinking better
• A method of understanding the purpose of any particular context to become a lifelong learner, to find what you need and then be able to communicate the information
• Transforms thinking through systematically and comprehensively thinking at a higher level
• A system of thinking that opens any system

3.3.2 DEFINITION OF CRITICAL THINKING AS A SYSTEM

Paul (2007) contended that the last definition is the most useful for explicating CT with instruction within the systems approach. In this regard, CT is not a stand-alone skill, but a system that is accessed so that one can become a better thinker in any field. For purposes of the IVCP pedagogy explained in this paper, the Paul definition of CT expands to: Critical thinking is a system of analysis and evaluation that opens all other systems.

3.3.3 PAUL-ELDER MODEL OF CRITICAL THINKING

The Foundation for Critical Thinking developed CT as a system over the past three decades with Richard Paul and Linda Elder (2006) leading the development of the model. This paper refers to their system as the Paul-Elder Model (hereafter PEM). Three parts of the PEM, analysis (the elements of thinking), evaluation (the intellectual standards) and dispositions (intellectual traits), are detailed within this system. The model is easily searchable online, with extensive images to use for instruction. The visual model allows for pragmatic usage in the classroom when mediating CT to advance student development. Assessment strengths can be seen in each of the three parts of the PEM: analysis, evaluation and traits.

3.3.3.1 ANALYSIS

The first section of the PEM provides conceptual language as linguistic tools to separate particular elements of thinking to enable a critical examination. In this model, analysis involves eight elements of thought, as presented in Table 6. These elements have no specific order. They interact with each other and rely on changes within the other elements for adjustment and adaptation. In other words, if one element changes, more than likely it will affect the thinking involved in the analysis of the other elements.

Table 6. Elements of thought in the PEM

Element	Examples
Purpose	Goal, objective
Question at issue	Problem, issue
Information	Data, facts, observations, experiences
Interpretation and inference	Conclusions, solutions
Concepts	Theories, definitions, axioms, laws, principles, models
Assumptions	Presuppositions, taking for granted
Implications and consequences	Positive and negative
Point of view	Frame of reference, perspective, orientation

The elements facilitate focusing analysis so as to pinpoint the relevant aspect of thinking. Paul's (2007) useful metaphor compared the elements to describing the inside of a house. The description would change based on each window through which one would look. Analysis, through the elements, allows students to "look" through different windows to understand something in a more specific and deeper manner. "All thinking is defined by the eight elements that make it up" (Elder & Paul, 2006).

The visual representation of the eight elements within the PEM as a wheel reinforces the interdependence of analysis, as viewed in Figure 1. For example, if the purpose of analysis changes, then the question at issue may also be different.

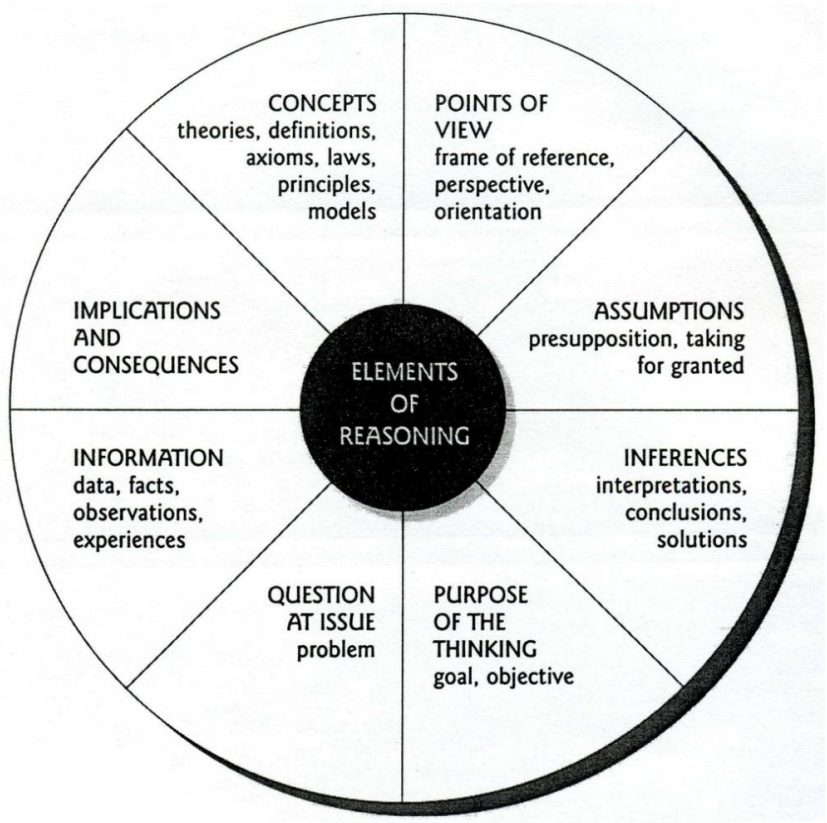

Figure 1. The Visual representation of elements of thought of the PEM (www.criticalthinking.org)

3.3.3.2 EVALUATION

The elements of thought provide tools for analysis, while the intellectual standards provide linguistic tools for specific evaluation of thinking (see Table 7). In this way, the student can assess the quality of thinking by pinpointing the strengths and weaknesses of whatever is being analysed. Each standard can be applied separately to all elements. The nine standards (Paul & Elder, 2006) are visually represented as a list to represent their independence.

Table 7. Intellectual standards of the PEM

Standard	Example
Clarity	Understandable, the meaning can be grasped, not vague or muddled
Accuracy	Free from errors or distortions, true
Precision	Exact to the necessary level of detail
Relevance	Relating to the matter at hand
Depth	Containing complexities and multiple interrelationships
Breadth	Encompassing multiple viewpoints

Logic	The parts make sense, no contradictions
Significance	Focusing on the important, not trivial
Fairness	Justifiable, not self-serving or one sided

Paul (2007) contended that if students can internalise these two foundations of the system, elements and standards, then they should increase self-regulation when analysing and evaluating the thinking of themselves and others. In effect, this system provides 72 potential ways of CT (the eight elements as a way to pinpoint the analysis can each be evaluated through the nine intellectual standards) to apply to all other systems. Not all 72 permutations need to be applied in all cases. For example, it is possible to only assess the relevance of a purpose and the significance of the consequences presented in a paper or a speech.

3.3.3.3 TRAITS

As the standards become applied to the elements, intellectual traits are developed (Paul, 2007, see Table 8). These traits are the third part of the PEM. The traits expand on the goal of disposition development. Therefore, unlike the elements and standards that are immediately accessible, the dispositions are goals of development. These dispositions may also be mediated as ethical standards.

Table 8. Intellectual traits of the PEM

Trait	Example
Intellectual humility	Consciousness of the limits of one's knowledge
Intellectual autonomy	Having rational control over one's beliefs, values, inferences, and thought processes
Intellectual integrity	Need to be true to one's own thinking, consistency with applied standards
Intellectual courage	Need to face and fairly address issues for which strong negative emotions are held
Intellectual perseverance	Need to use intellectual insights and truths in spite of difficulties, firm adherence to rational principles
Intellectual empathy	To put oneself in the place of others, consciousness of egocentric self, accurate reconstruction of the viewpoints of others
Confidence in reason	Encouraging the freest play to reason for people to develop their own rational faculties will best serve humankind at large
Fair-mindedness	Need to treat all viewpoints alike without reference to one's own feelings or vested interests, adherence to intellectual standards without reference to one's own advantage

3.4 CONTEXTUALISING THE PEM THROUGH ARGUMENTS

The elements and standards of the PEM allow for an explicit explication of CT to students during in a single class session. Traits can be used in later sessions such as goal setting or ethics. Of course, students are not expected to master the PEM upon introduction. However, if activities in the class encourage usage of the model as an assessment tool, then students should gain increasingly more confidence in assessment through the PEM (Paul, 2007). Therefore, students should employ the model to continuously explicate the course content and be able to explain their analysis and evaluation to other students. Students should also use the language and concepts of the model to assess the thinking of their fellow students. While the PEM can be contextualised in a multitude of ways, the basic structure of an argument is stressed as a unit of analysis within CT. In other words, this article maintains a point of view that CT is best understood and developed in the critical analysis and evaluation of the arguments presented to achieve a specific purpose. Indeed, as Facione points out, "it is possible to evaluate critical thinking by evaluating the adequacy of the arguments that express that thinking" (cited by Lewis & Smith, 1993, p. 135).

While the development and evaluation of arguments fit well with the discussion of CT in the classroom, the PEM provides a method for students to use when they develop and assess arguments. In other words, while students are often told what they should do (i.e. "think critically"), the PEM provides them with a system of how they can do it. Therefore, when Paul (2007) recommended that the PEM should be introduced at the beginning of a course, he encouraged its use as a way to analyse and evaluate arguments in all subsequent lessons. If argued that concepts in all courses represents a series of arguments, then the PEM could be expanded to all classrooms, regardless of the particular discipline. (For a more thorough discussion of the praxis of classroom mediation, see Rybold, 2015.)

4. PRINCIPLES BEHIND THE IRVINE VALLEY COLLEGE PROJECT

Praxis of the IVCP consist of the concepts and activities to change the students and make them better speakers and better thinkers. The course concepts explicated during the basic oral communication course can be found in standard public speaking textbooks. Frankly, the plethora of textbooks often unnecessarily complicate the core concepts. For example, while valid information, requiring beginning students to learn four ways of reasoning and a list of fallacies are often not necessary. While the book chosen at IVC also goes beyond the core concepts, its choice reflects essentially the least expensive text we found. The IVCP seeks to internalise the core concepts by providing a variety of practical activities for students. Therefore, the IVCP Instructor Guide (Rybold, 2015) provides the full procedures with day-by-day explanations for the praxis (e.g., concepts and activities) of the course, regardless of the textbook being employed.

4.1 PUBLIC SPEAKING CORE CONCEPTS

The core concepts, along with the syllabus explanation, require between 15 and 18 hours in-class. Therefore, the first third of the IVCP public speaking course introduces the core concepts (see Table 9).

Table 9. The core concepts

- Critical thinking as a system of analysis and evaluation
- Collaborating in small groups
- Communication principles and audience analysis
- Active listening
- Overcoming speech anxiety
- The organisational model
- Researching and argument construction
- Constructing informative and persuasive speeches
- Delivery

4.2 EXTENSIVE PRACTICE ACTIVITIES

Doug Lemov (2010) in his book, *Teach like a Champion*, details a technique called "at bats". His metaphor of baseball is that the best hitters learn the basics, and they practise until they can swing quick and level, to maximise the number of at bats. "That's the key. Don't change it. Don't get too fancy. Give them at bats" (p. 104). Four pedagogical theories guide practice activities: collaborative work groups, high tolerance for error and dynamic assessment (Rybold, 2015a).

4.2.1 COLLABORATIVE WORK GROUPS

In order to provide more "at bats," students collaborate in small group activities every class session. In some cases, they discuss course concepts. Other times, they give speeches. Even with increased noise levels of several small groups working simultaneously, students get used to the environment and are able to function productively. The small group process allows all students to actively participate more often than a traditional class. It also facilitates active oral assessments by every student during every class meeting. In other words, when one student in the group is giving a speech, the other members of the group are actively listening and noting items for discussion during assessment after the end of the speech. One student may be looking for a demonstration of confidence in delivery, such as body control, while another is looking for organisational structure and the use of arguments. In this process every student becomes a speaker and then an assessor to actively explain the critical thinking involved in the activity.

4.2.2 HIGH TOLERANCE FOR ERROR

Rather than grading every speech or having quantitative rubrics to be completed on a multi-level check list, students complete speeches at their own levels of development and are qualitatively assessed by classmates. Since speeches are required in each class session, there can be 15 to 20 opportunities for improvement for each student. Routinely, students will be at different levels of development for each speech. Some students may master organisational concepts earlier, while others will move towards more confident delivery or the use of research to construct arguments. It is acceptable for students to make mistakes during their development process. As in universal design pedagogy, the IVCP allows students to develop at their own pace with the instructor and other classmates serving as coaches.

4.2.3 DYNAMIC ASSESSMENT

The idea is to use dynamic assessment with the focus on improvement, rather than some arbitrary number, check mark or grade. This allows students to practise, without punishment, in front of other students and the instructor. At times, the grading process itself can be extremely stressful for students, so the final assessment, given by the instructor, comes towards the end of the class, when the students have internalised the processes to their own level of development. In this sense, instructors try to test students at the point of success, with students selecting the date they want to "test-out". This contrasts with the traditional pedagogy of grading a series of speeches that students deliver scheduled throughout the term. For many students, these speeches are weak because they have not internalised the concepts. In other words, their brains have not yet changed.

Assessment activities typically have four criteria: gives feedback immediately following the activity, follows rubrics/concepts explicated during the class, provides speakers with improvements gained and needed and may be written and/or oral. A traditional class typically provides instructor-focused assessments and grading. Because of the logistics for getting through all of the speech assignments, one at a time, assessments are often only written. Audience members often provide no assessments at all. When assigned to critique, only a few students can orally participate (active), even if everyone writes critiques (passive). Often speakers do not receive feedback until the next class period when they are handed notes. Rarely are the assessors assessed.

The IVCP provides for activity-focused assessments. Since each student will be put into a small group with 3-5 other students on 30 occasions, each student will provide in excess of 100 oral assessments of and to other students. These assessments play a foundational role in the IVC for developing CT, for as Paul (2007) claimed: "Whoever is doing the assessing is doing the critical thinking". In addition, small groups better encourage appropriate feedback and collaboration. This dynamic assessment is also immediate. Students follow qualitative rubrics to make their assessments specific (discussed below). During this same activity period, each speaker takes notes on the assessments of the speech and writes a short self-assessment (a two-minute free-write

exercise) at the end of the activity, thereby completing a dynamic self-assessment reinforcing how to improve for the next time.

4.3 TYPICAL REPEATABLE DAY

The concept of the typical repeatable day allows instructors to use the same instructional strategies in a variety of contexts (Paul, 2007). This lessens the burden on the instructor and provides continuity for the students. Two general activities repeat throughout the course: SEE-I writing assignments and speeches such as extemporaneous and impromptu assignments.

4.3.1 SEE-I WRITING ASSIGNMENTS.

Nationwide, 94% of public speaking classes require ten or fewer pages of written assignments (Morreale, Worley, & Hugenberg, 2010). In the IVCP, students are provided with the specifications for the SEE-I assignment (see Table 10) and the prompts with the syllabus. A typical prompt might be: "The most important concept in the chapter is…"

Table 10. SEE-I writing model

Element	Paragraph Explanation
Statement	One sentence, one argument. Complete the prompt on the content.
Elaboration	One paragraph (5-7 sentences) starting with "In other words…"
Example	One paragraph (5-7 sentences) starting with "For example…"
Illustration	A metaphor, drawing, or photo starting with "This is like…"

The SEE-Is are discussed in small groups in each class meeting in the first third of the term. These activities coincide with content lectures. Small groups typically have four members, but can be flexible on size (2-6 students). Students are required to read, think and write about the concepts of the day before coming to class. This means students process course content as they meet the reading and writing recommendations of Arum and Roksa (2011). Rather than using exclusively spontaneous thought for class participation, students share their written, constructed arguments in small groups. This is especially valuable for apprehensive speakers and ESL students (Rybold, 2010c). In these small groups, students practise their CT by using the PEM to assess the writing of the other students. Therefore, every student actively participates in writing and speaking during concept explanation class sessions while giving and receiving prompt assessments.

SEE-Is may be collected for ongoing evaluation of writing or grading purposes. Ultimately, the papers are edited and submitted in a portfolio at the end of the term. The process of editing is valuable for students developing writing skills while providing another opportunity for rigorous grading standards. Instructors in the action research for the instructor guide listed 13 benefits for students when discussing SEE-I assignments, ranging from forcing students to read the textbook to helping ESL students to formulate

arguments without the pressure of spontaneous thought (see Rybold, 2015 for a complete list).

4.3.2 SPEECHES

After the concepts are covered, the rest of the course is spent with all students giving speeches every class period. The genre of these speech assignments is classified as academic argumentative (Rybold, 2015). These speeches are either six to eight minute extemporaneous speeches using research within a persuasive design (i.e. problem-cause-solution) or three to five minute impromptu speeches using common knowledge in an informative design (i.e. topical). Students will also complete a journal entry on each speech. To qualify as a speaking activity three criteria must be met: one person speaks to many persons (3+), the presentation follows a prescribed organisational format and an assessment by instructor or peers follows the presentation. Since a traditional class typically has four or fewer speaking activities, one main characteristic is the size of audience, with the entire class (approximately 30 students) listening to one speaker at a time.

An IVCP public speaking course may have as many as 30 speaking activities for each student, to be delivered in small groups. The typical audience size is four to six students, with four to six groups in one class. Since the activities are done in small groups, each audience member has the ability to give an oral assessment of each speaker. Even though scripted, the SEE-I assignments are also classified as speaking activities for this paper because they fulfill the criteria. The typical number of speaking activities for the IVCP is detailed in Table 11:

Table 11. Speaking activities

Activity	Frequency per course
Modified impromptu practice during organisation activity day	1
Modified extemporaneous practice during delivery activity day	1
Extemporaneous assignments	12
Impromptu assignments	6
SEE-I assignments	10
Total	30

Taken together, the speaking and assessment activities in class will routinely translate into each student actively engaged through oral communication and critical thinking 130 times, each time tasked with following the concepts of better speaking and better thinking. This means that the class is labour intensive for the students, not the instructor. The actual time spent in each project class is the same time spent for traditional pedagogies. However, in the project pedagogy, the instructor is free to roam among groups and give different

types of assessments. In some cases, the instructor may sit with students who need more coaching similar to "flipping the classroom" pedagogies. Other times, groups may need encouragement to stay on task and give appropriate assessments of the speeches they hear. The coaching dynamic is flexible regardless if the speeches are extemporaneous or impromptu.

4.3.2.1 EXTEMPORANEOUS SPEECHES

Over the term, 10-14 extemporaneous speeches are given in small groups (5-7 students). The speech length is seven minutes (6-8 minutes is acceptable), with seven sources minimum. Evidence for the speeches should come from the campus library data bases. For example, IVC students must find articles from Lexis/Nexis, ProQuest, or Ebsco (Academic Search Premiere), dated from the last two years.

While students may select their own topics, the IVCP has the instructor provide a prompt article in a manila folder to initiate the research for each topic. These prompts are selected on current social issues and usually contain arguments of problem, cause and solution. For example, as I write this, the California drought is an excellent topic area for research. Students are required to print 15 articles minimum for their files. Students will research two topics. This means 60 topic folders need to be available for a 30-student class. A master file of prompts is maintained from term to term, with older issues culled and more recent topics added. Students will only speak once on a topic. Once students finish speaking on the topic, the folder is given to another student, who will add more research. Sharing files of recent research provides background knowledge for each students, thereby minimising the criticism of CT by Vandermensbrugghe (2004) detailed above.

Typically, students have two to seven days to prepare their extemporaneous speeches. Some instructors have opted to do competitive style speeches with a 30 minute, in-class preparation, and then have students give the speech in a smaller sized group (four students) to be able to complete by the end of class (Newman, 2009). The speeches are delivered to a small group. During the presentations, speakers use keyword note cards with their speaking outlines. These note cards will be turned in at the end of the term (attached to journal entries, described below). Group members assess each other's speeches. Dynamic assessments, with an eye on improvement, are given orally, during which the speaker takes notes on the group's comments.

After students have practised a minimum number of speeches (five or six), they may request to be tested out by the instructor. Their group must certify them as ready. The student picks a file or lets the instructor know if they want to research a topic of their own choice. Once students receive an 85% or above on their speeches, they have tested out and become coaches for the other students. Students whose speeches do not meet the criteria receive "no test" instead of a grade and must reschedule a retest after they have practised a few more times. Dweck (2014), in her TED Talk refers to this type of assessment as "Not Yet." The emphasis is placed on development in process.

4.3.2.2 IMPROMPTU SPEECHES

Over the term, each student gives five to seven impromptu speeches in small groups. A variety of topics and preparation formats aid development. In the beginning speeches, each student, when given a topic participates in group brainstorming before individual preparation. Total preparation time is between seven to ten minutes. Speech lengths incrementally increase over the term from three to five minutes. Once again, students in small groups assess the speeches. Since only the extemporaneous speeches require testing out, impromptu speeches are not graded. Topics can include one-word abstracts (nouns or virtues), quotations, shared experiences, interviews or current events.

4.3.3 JOURNALING

Journals of self-assessments are turned in, both occasionally throughout the term and at the end of the term. Self-assessment is essential for reinforcing and internalising concepts. Therefore, group members actively assess all speeches delivered in their groups, and all speakers take notes of these oral assessments. At the end of all speeches, students have two minutes to silently free write about their experience and how they can improve. As soon as possible, after class, they type up a few paragraphs of self-assessment on every speech. These entries will be turned in as their journals. There should be between 15 and 20 entries in the journal.

The process of journaling is valuable for students to reflect on improvement and to develop writing skills while providing another opportunity for rigorous grading standards. Together with the portfolio of the SEE-I assignments, journal entries on all speaking assignments (15-20 speeches) require students to write 25 to 30 pages for the course.

5. CONCLUSION

As mentioned in the introduction, the cohort of IVCP instructions reported substantial improvements in the ESL students in their multicultural classrooms. Before instituting the IVCP I taught with a traditional pedagogy. I am now very sure that having my students give only four speeches merely began their development process towards becoming better thinkers and better speakers. The practice framework of activities I used in the traditional class probably did not maximise the time in the classroom to develop my students' critical thinking. Support for increasing the quantity of activities comes from Zohar and Dori (2003, p. 153) who found:

> One of the assumptions the project is based on is that teaching of higher order thinking must be systematic. Practicing a skill once or twice a year through problem solving may offer students an exceptional interesting lesson, but will not be very useful in fostering their thinking. The methodology used in the…project is to repeat the same skill time and again in different…contexts and to apply it to various types of problems.

In this light, the IVCP exponentially increases the communication activities of the basic course. In the extremes, a student may speak only four times in a traditional class, while in an IVCP class, a student could potentially orally communicate using critical thinking concepts 130 times. The guiding principle of the IVCP is to get students productively speaking, as often as possible, utilising collaboration principles of a high concern for people and a high concern for tasks. This has been accomplished in hundreds of classrooms through having students speak every class day using systematic organisational formats and assessing their own work and the work of others using CT as a system.

If students, using the IVCP in a basic class, successfully internalise better speaking and better thinking development, then it is hoped they will find instructors who can willingly take their development to the next level and also have them debate as advanced English speakers.

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