

Instructional Design Implications for International Graduate Students: Perceptions on Intercultural Communicative Competences and Socially Engaged Learning

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Abstract

The purpose of this study is to perceptions of international graduate students on intercultural communicative competence (ICC) and ID strategies for socially engaged learning (SEL). As an internal condition, ICC is a quality for those who enter a second language and culture. As an external condition, SEL includes recommended learning and instructional strategies for the students. SEL was derived from the review of existing and well-known social theories of learning. As a case study in a large university in the U.S., this study investigated perceptions on ICC and SEL with a sample of 208 non-native English speaking international graduate students coming from China, India, South Korea, and other diverse countries. Results of quantitative analysis showed that these students with different background characteristics, academic disciplines, cultural origins, and previous experiences perceived a moderately high level of ICC and generally had positive views on SEL strategies for socially engaged learning. Significantly different perceptions among sub-factors of ICC level and SEL framework across their backgrounds suggest that the instructional designers need to better understand students' different intercultural competencies, to build a bridge in applying between generally-accepted versus culturally-specific instructional design principles, and finally to help students prepare their socially engaged learning successfully.

Keywords: *Intercultural Communicative Competence, Socially Engaged Learning, International Students, Culture, Instructional design*

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외국인 대학원생을 위한 교수설계 방향: 이문화소통역량과 사회적으로 몰입된 학습에 대한 인식을 중심으로¹

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국문요약

본 연구의 목적은 외국인 대학원생의 이문화 의사소통 역량(Intercultural Communicative Competences: ICC)과 사회적으로 몰입된 학습 (Socially Engaged Learning: SEL)에 대한 인식을 조사하는 것이었다. 교수 설계의 내적 조건으로서 ICC는 외국에서 공부를 하는 대학원생들에게 요구되는 자질이다. 또한 교수설계 외적 조건으로서, SEL은 알려진 사회학습 이론에 대한 고찰과 핵심적 원리들을 도출하여 개념화하여 몰입학습을 사회적 측면으로 확장한 것이다. 미국 소재 한 대학에서 이루어진 사례 연구로서, 본 연구에서는 영어가 원어민이 아닌 중국, 인도, 한국 등에서 온 대학원생 208명을 대상으로 ICC와 SEL에 대한 인식을 조사하였다. 정량 분석을 통해 대학내 다양한 문화적 배경과 학문적 배경, 사전 경험을 가진 외국인 유학생들은 비교적 양호한 수준으로 자신들의 이문화 소통 역량을 평가하였고, 사회적으로 몰입된 학습 전략에 대해서도 긍정적인 시각을 보였다. 각 역량과 교수설계 전략에 대한 인식의 세부 요인들에 대해서 통계적으로 유의미한 차이가 발견되어, 교수설계자가 이들 학생의 서로 다른 이문화 소통 역량을 이해하고, 이들이 보다 사회적으로 몰입된 학습 경험을 할 수 있도록 교수설계자가 문화적으로 보편적이면서 개별학생들의 문화적 특수성을 연결하는 교수 설계적 노력이 필요함을 시사하였다

주제어: 이문화소통역량, 사회적으로 몰입된 학습, 외국인 대학원생, 교수설계

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I. Introduction

A university is an academic place with a variety of students from different cultures. International education, realized by such cultural diversity in the university, provides significant benefits to international graduate students. Specifically, they fulfill their personal and educational aspirations. They experience cross-cultural learning, have professional research opportunities, build their teaching abilities, and achieve expertise in their specific academic field. However, there are also many challenges. They must face cultural differences, adjust to the new environment, develop language proficiency, and build new social relationships. These challenges sometimes impact the learning efficiency, self-esteem, anxiety level, and academic performance.

Intercultural communicative competence (ICC) is an internal condition required to international graduate students. As Byram (1997) stated, ICC is “the qualities required of the sojourner” (p. 3). It is a set of complex abilities for those who enter a second language and culture to interact successfully with people of different linguistic and cultural backgrounds. An elaborated definition indicates “the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills, and attitudes” (Deardorff 2007, 87-88).

In reviewing instructional design models that emphasize systematic analysis of learners, it has been well documented that instructional designers should understand diverse learners’ abilities and cultural characteristics and apply them in their instructional design strategies. In taking a systematic approach to analyzing target audiences and connecting the analysis with design strategies, this study addresses a need to investigate international graduate students’ intercultural communicative competence and effective instructional design strategies and technologies which can guide them to be more socially engaged in learning and research in U.S. universities.

Socially engaged learning is an extended concept of engaged learning which establishes the students, more positively, as active learners. This engagement requires a high level of learner participation, responsibility for learning, learning with authentic tasks or problems, and collaboration with other students in shared and flexible roles (Bulger, Mayer, & Almeroth 2006; Hung, Tan, & Koh 2006). Such a learning environment is especially recommended for international graduate students because previous research findings report that they present a lower level of engagement and participation in social discourse and they tend to be passive in class discussion due to their linguistic limitations and cultural differences (Hlas, Schuh, & Alessi 2008; Yildiz & Bichelmeyer 2003). As theoretical background of socially engaged learning, this study reviewed three social theories of learning including (1) social learning theory, explaining an individual’s social and psychological functioning; (2) sociocultural theory and activity theory, explaining social and cultural impacts on learning; and (3) situated learning theory, emphasizing the effect of gradual involvement in the specific community of practice.

In synthesizing the critical concepts from the social theories of learning, socially engaged learning indicates a learning environment in which learners are gradually involved in the rich cultural context, learners’ self-regulative ability is encouraged for active participation, and communication tools are integrated effectively and appropriately in the intercultural learning situation. This study began with a question how international graduate student experience such a socially engaged learning in their second language and cultural environment.

Several instructional design and technology (IDT) scholars (G. Powell 1997; Subramony 2004) point out the lack of research on culturally diverse or minority students like international graduate students. Previous research on international graduate students calls attention to their linguistic and cultural challenges (Baek & Damarin 2008; Ku, et al. 2008). Few instructional design guidelines exist and no research is available to guide instructional designers or instructors in preparing their international graduate students to study more effectively and have more valuable intercultural experiences while attending a U.S. university.

The purpose of this research is to describe international graduate students' characteristics and to suggest effective instructional design strategies for them to become more socially engaged and successful in their studies in U.S. graduate programs. For this purpose, this study focuses on investigating those students' perceptions on intercultural communicative competence (ICC) and effective instructional strategies for socially engaged learning.

II. Theoretical Backgrounds

1. Intercultural Communicative Competencies

Understanding intercultural communication is important for three reasons. First, current classrooms are increasingly diverse in terms of race and ethnicity. Powell and Andersen (1994) asserted that educators must understand how culture influences classroom communication. Second, as information and communication technologies (e.g., web, mobile, virtual world, MOOC etc.) advance, people can more frequently and easily experience social contact with other cultures. The various cultures in the world are increasingly more accessible than before. Third, learning can occur not only within the classroom but also outside of it. As people develop a broader perspective of learning they became aware of the value of a community of practice where people with diverse cultural backgrounds and from diverse academic disciplines share their interests and thoughts.

Intercultural communication is particularly important to international students because their academic success relies on their communicative competence. As diverse students from various countries work together, they naturally face cultural differences which cause different communication patterns. While diversity can bring successful cross-cultural information exchanges, cultural differences sometimes bring intercultural conflicts and miscommunication. Thus, the development of intercultural communicative competence (ICC) is important in order to minimize such conflicts and miscommunication.

Many scholars and researchers have attempted to define intercultural communicative competence (ICC). Byram who defined ICC first, indicated ICC as a significantly extended concept of communicative competence. Byram (1997) pointed out that while Hymes' main concern was "to analyze social interaction and communication within a social group using one language" (p. 9) without considering much about cross-cultural communication, other scholars such as Canale & Swan (1980), van Ek (1986) and the Council of Europe team emphasized the social and cultural competences. Especially, he was interested in the model of six competences including linguistic, sociolinguistic, discourse, strategic, sociocultural, and social competence addressed by van Ek; however, Byram (1997) was critical of many scholars including van Ek who tended to view "the learner as an incomplete native speaker ... native speakers as a model" (p. 11). Byram (1997) argued that "the more desirable outcome is a

learner with the ability to see and manage the relationships between themselves and their own cultural beliefs, and behaviors and meanings” (p.12).

Since scholars have defined ICC differently, the models of ICC also highlight different focuses and include different components. Spitzberg (1994) explained “communication will be competent in an intercultural context when it accomplishes the objectives of an actor in a manner that is appropriate to the context and relationship” (p. 347). In consideration of effective and appropriate communication between actor and co-actor, his ICC model is constructed of three parts: the individual, the episodic, and the relational system. An individual’s system includes motivation, knowledge of communication, and skills in implementing his motivation and knowledge. An episodic system illustrates the interaction in which actor and co-actor share the episode. The relational system helps a person’s competence across “the entire span of relationships” (p.350). This model consists of essential factors for successful intercultural communication. It demonstrates the ecological attributes of the competence through three levels of analysis.

Kim (1988) specifically considered long-term immigrants and short-term sojourners who experience intercultural conflicts. In this context, she conceptualized host communication competence as including four dimensions: (1) knowledge of the host communication system, (2) cognitive complexity, (3) affective co-orientation, and (4) behavioral competence. First, knowledge of the host communication system includes knowledge of the host language, host non-verbal behavior, and communication rules. Second, cognitive complexity refers to how people perceive the host culture. As an indicator, an individual’s cognitive flexibility implies “a capacity to be mentally flexible in dealing with ambiguity and unfamiliarity” (pp. 96-97). Third, affective co-orientation is the emotional drive or reflexes toward a successful adaptation in the host environment. This element includes adaptive motivation, affirmative self/emotional appreciation, and aesthetic/emotional appreciation. Fourth, behavioral competence enables the activation of knowledge, cognitive and affective elements.

Byram (1997) also built a model of intercultural communicative competence for the purpose of teaching, assessment and certification. The model includes factors involved in intercultural communication and relationships between factors. The model begins with a situation where a person interacts socially with someone from a different country. The primary focus of this model is on the interaction between native and non-native speakers or between two non-native speakers. Byram(1997) stated that such “intercultural speakers” (p. 32) bring to the communication their knowledge of the world to which they mainly belong and social identities rendered by the world. In setting the purpose of communication as “the effective exchange of information ... establishing and maintenance of human relationships” (pp.32-33), he highlighted four important factors: (1) knowledge, (2) attitudes, (3) skills of interpreting and relating, and (4) skills of discovery and interaction. Although knowledge and attitude are pre-conditional factors, those factors can be modified through the process in which each interlocutor brings different skills to the interaction. Also, while skills of interpreting and relating indicate “the ability to analyze data from one’s own and from another country and the potential relationships between them, ... skills of discovery and interaction can be operated in some circumstances independently” (p. 33).

Fantini(2006) defined ICC as “the complex of abilities needed to perform effectively and appropriately when interacting with others who are linguistically and culturally different from

oneself” (p.1). This definition carries two perspectives. While effectiveness refers to one’s own view of one’s performance in a second language and culture, appropriateness refers to how one’s own performance is perceived by one’s host. He investigated intercultural experiences of volunteers in an international partnership program and summarized the concept of ICC in five points. First, ICC is based on diverse characteristics related to one’s personality such as openness, flexibility, and tolerance for ambiguity. Second, ICC measures three abilities: building social relations, communicating clearly, and collaborating for a mutual goal. Third, ICC includes knowledge, attitudes, skills, and awareness. Fourth, ICC is related to proficiency in the host language. Lastly, ICC relies on developmental levels from educational traveler to sojourner to professional, and to intercultural specialist.

In regard to various definitions of ICC and 30 years’ efforts to characterize ICC, Deardorff (2007) summarized several perspectives including the “communicative nature of intercultural competence, ... developmental stage, ...a combination of knowledge, skills, and attitudes, ... the situational aspects, and... broader definitions that encompass transnational or global competence” (p. 86) with citations of many experts in this area. Deardorff (2007) collected the key components of ICC from twenty intercultural experts by using a Delphi research technique. Throughout the research, the top-rated definition of ICC was “the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills, and attitudes” (pp. 87-88). The model, based on the items that received 80 to 100% agreement of the top intercultural experts, highlights the iterative and cyclic features of the model. Deardorff noted that ICC begins with attitudes, such as respect, openness, curiosity and discovery; it tends to move from the individual level to the interaction level with features such as internal adaptability, flexibility, and external communication ability in an intercultural situation. The degree of ICC depends on the degree of attitudes, knowledge, and skills.

The models that describe ICC indicate its ecologically and gradually developed features by (1) incorporating individual, social (or interactional), environmental factors, (2) covering cognitive, affective, and behavioral aspects, and (3) presenting increasing knowledge, skill and attitude about (4) how to build relationships, communicate, and collaborate in the host culture . While Spitzberg’s model covers a human’s general intercultural communication, Kim’s model and Fantini’s research project focus on a specific population, people who enter into and adjust to a new environment and have intercultural experiences. Unlike other models, Deardorff’s model explains the process of how people develop intercultural competences from the individual to the interactional level.

In a synthesis of the commonly accepted definition and existing models, ICC includes individual, interactional, and social aspects. The individual abilities are measured by knowledge, skill, attitude, and awareness about the host language and culture, and the interactional abilities are covered by adaptability, flexibility, appropriateness, and effectiveness of communication. These abilities are components that successful communicators might possess and ways to behave in intercultural communicative situations. Such ICC is developed gradually and is influenced by multiple variables, such as the individual’s personality and cultural differences. Figure 1 illustrates the following four implications - (1) two such aspects or levels of ICC, (2) major components of ICC, (3) the intercultural communicative situation, and (4) the iterative and gradually developed attributes.

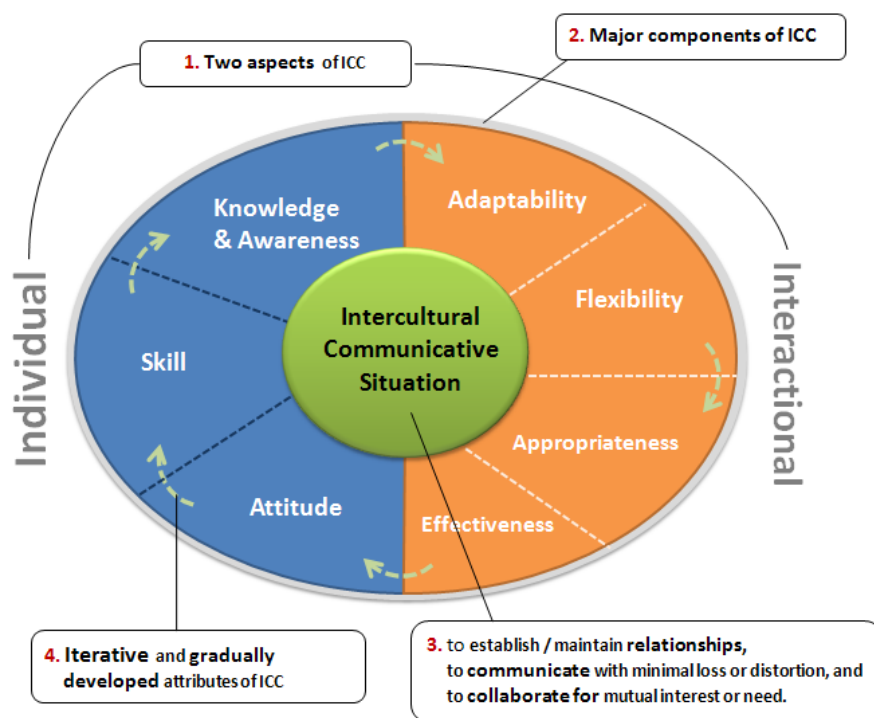


Figure 1. Relevant dimensions and components of ICC

First, the *individual's* knowledge (and awareness), skill, and attitude should manifest themselves in the assessable internal and external outcomes when students are involved in the intercultural communicative situation where actual interaction occurs. Second, the major factors of ICC include attitude, skill, and knowledge (and/or awareness) about intercultural communicative situations. Third, the specified intercultural communicative situation will involve (a) relationship building, (b) communication without misunderstanding and distortion, and (c) collaboration for mutual interest or needs. Lastly, the individual's ICC is developed through the iterative cycle. For example, "as respect, openness, and cultural curiosity increase, so does cultural knowledge... as [the] awareness and knowledge is gained through the development of key communicative and cognitive skills".

2. Socially Engaged Learning

In regard to the language and communication difficulties of international graduate student, effective learning and teaching methods for this population is an important consideration. This study reviewed useful instructional strategies based on the existing social theories of learning such as social learning theory, sociocultural theory and situated learning theory. As shown in Figure 1, the derived strategies from the learning theories include gradual engagement and active participation, rich cultural context, self-regulation, and integration of communication technology. In putting them together in a synthesized framework, socially engaged learning is defined as a learning environment where learners are gradually involved in the rich cultural context, the learner's self-regulation ability is encouraged for active participation, and communication tools are effectively and appropriately integrated in the intercultural learning situation.

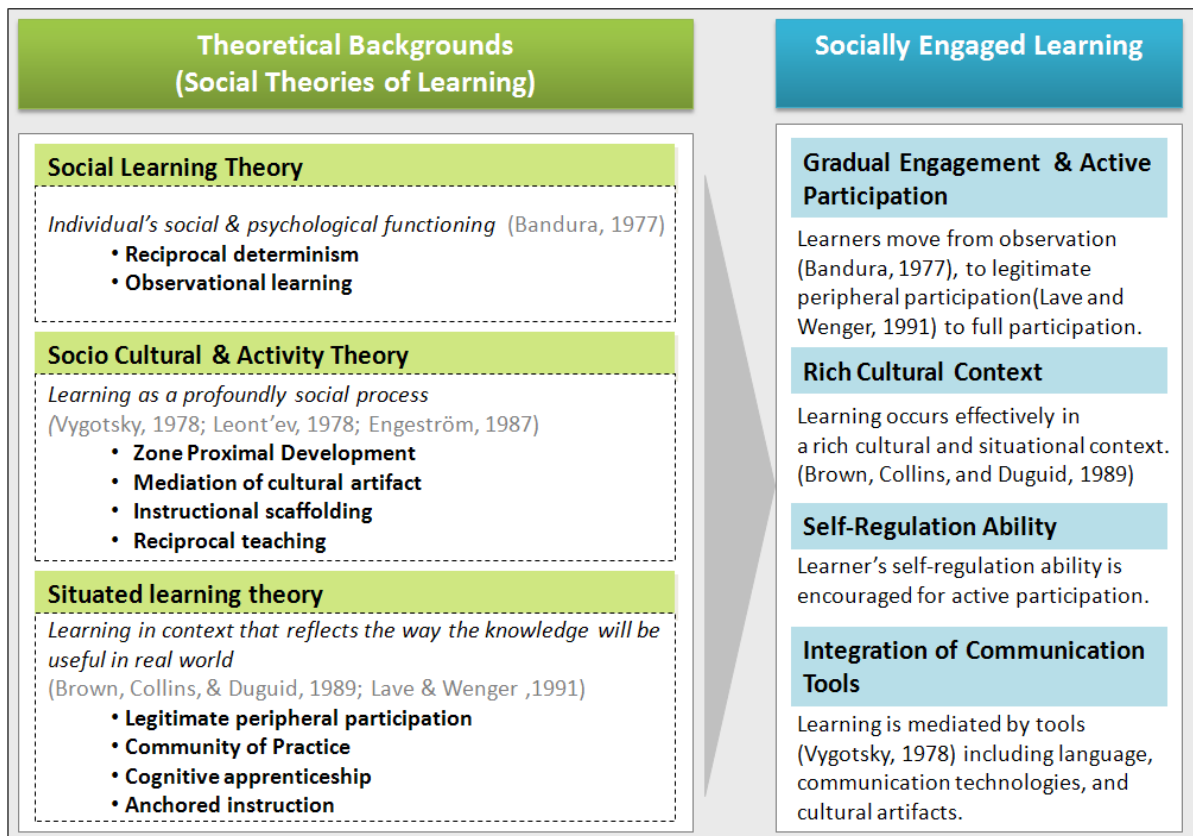


Figure 2. Theoretical backgrounds and notions of socially engaged learning

In addition, socially engaged learning is an extended concept of engaged learning which establishes the students, more positively, as active learners, requiring a high level of learner participation, responsibility for learning, learning with authentic tasks or problems, and collaboration with other students in shared and flexible roles. Several scholars have developed and categorized the indicators of engaged learning.

Jones, Valdez, Nowakowski, and Rasmussen (1994) provide a comprehensive and useful set of eight indicators of engaged learning, and suggest that the following are important: (1) a vision of learning, (2) authentic and multidisciplinary tasks, (3) performance-based, generative, seamless, and equitable assessment, (4) interactive and generative instructional model, (5) collaborative, knowledge-building, empathetic learning context, (6) heterogeneous, equitable, and flexible groupings, (7) teacher as a facilitator, guider, and co-learner/investigator, and (8) student as an explorer, cognitive apprentice, teacher, and producer. Jones and his colleagues refined and expanded a study on the seven indicators identified by Means and her colleagues which was grounded in observations of successful practice.

Hung, Tan and Koh (2006) offer an engaged learning framework including problem ownership, collaboration, monitoring, role of experts, and use of tools. This framework was derived from a rather robust review of learning theories based on constructivism, situated cognition, authenticity in learning, self-regulated learning, and problem based learning. Wang and Kang (2006) have grouped indicators of engagement into three domains – cognitive, emotional, and social engagement. Each domain highlights (1) self-regulative, responsible,

and generative learning; (2) confident, secure, comfortable, and curious feeling; and (3) sharing resources and information, cohesiveness, acceptance, and collaborative learning.

Theoretical backgrounds and literature-based frameworks for engaged learning, such as those discussed here, help to organize and develop critical instructional design strategies for socially engaged learning. The following explains what are the major notions derived from socially engaged learning and how such notions can be applied to instructional design implications for international graduate students.

The first category, gradual engagement and active participation, stems from the point that learners move from observation (Bandura 1977) to legitimate peripheral participation and to full participation (Lave & Wenger 1991). During the gradual and stepwise engagement process, instructional scaffolding and mutual engagement through social interactions with and the assistance of more capable persons (Vygotsky 1978) are pivotal. In addition, peer review, reciprocal teaching, and collaborative working are practical learning methods to facilitate the learner's gradual engagement and active participation.

The second category, rich cultural context, implies that students are more motivated and engaged in learning when it is embedded in authentic tasks, problems, activities, and projects. It is important to consider the learner's historical and cultural background as well as their previous learning or working experiences so that he or she can understand both implicit and explicit knowledge based on their cultural and historical background. When group learning or team work is involved, grouping should be carefully considered in order for learners to experience diverse, equitable and flexible roles in a constructive, productive, and empathetic fashion.

The third category, self-regulation and learning ownership implies that learning is ultimately driven by the individual's effort and self-control. Since socially engaged learning eventually requires high responsibility and ownership, it is important to encourage appropriate guidance for students' self-regulative learning ability. Such metacognitive strategies include learners' goal setting and planning, help-seeking, self-monitoring, evaluating, and reflecting

The last category is integration of communication technology. As noted earlier, Vygotsky (1978) said that learning is mediated by tools, which include language, technology, and other cultural artefacts. Instructional design considerations for international graduate students should include the effective use of technology to support their linguistic and cultural differences. For example, using computer-mediated communication facilitates collaborative knowledge-building. In relation to this, research supports utilizing asynchronous tools for ensuring effective communication and allowing enough time for learners to prepare reflective articulation.

III. Methodology

This study was designed to investigate the perceptions of international graduate students attending U.S. universities on their ICC levels and effective instructional strategies. As a descriptive and quantitative approach, a survey method was employed because the target population needs to be studied as a whole, and the goal of this study was to find out how the members of the population distribute themselves on one or more variables such as age, gender, and ethnicity.

1. Instrument

A survey instrument contained three parts: (1) background information (15 items), (2) intercultural communicative competences (20 items), and (3) instructional design strategies for socially engaged learning (17 items). Part 1 included some demographic information such as gender, marital status, degree, age, nationality, native language(s), and their academic program; respondent's previous working experiences, length of studying in the U.S., pre-arrival language preparation, and prior intercultural experiences. These variables were included in this research framework because previous literature indicated that such items may influence their social adjustment, intercultural competence, and academic performance.

Survey items of Part 2: intercultural communicative competences included five categories: (1) attitude – respect and openness, and curiosity and discovery, (2) skills – acquisitive and applicative skills, (3) knowledge and awareness – cultural and sociolinguistic knowledge, (4) internal outcome – adaptability and flexibility, and (5) external outcome – effective and appropriate communication. This study referred to an existing assessment tool developed by Fantini which is a self-assessment tool called Your Objectives, Guidelines, and Assessment (YOGA). By referring to the items from Fantini's YOGA inventory as well as other resources framed in Table 1 the draft of the survey instrument was newly developed by the researcher.

Table 1. Factors and Descriptions for Survey Items of ICC

Category	Factors	Descriptions of Survey Items
Attitude	Respect & Openness	<ul style="list-style-type: none"> Valuing other cultures (Deardorff 2007) Open toward intercultural learning and to people from other cultures (Deardorff 2007) Withholding judgment (Byram 1997; Deardorff 2007)
	Curiosity & Discovery	<ul style="list-style-type: none"> Tolerating and engaging ambiguity (Deardorff 2007) Willing to seek out or take up opportunities to engage with otherness (Byram 1997)
Skills	Acquisitive (input)	<ul style="list-style-type: none"> Acquiring new knowledge of a culture and cultural practices (Byram 1997) Listening, observing, and evaluating
	Applicative (output)	<ul style="list-style-type: none"> Interpreting a document or event from another culture (Byram 1997) Explain it and relate it to documents or events from one's own (Byram 1997) Analyzing, interpreting, and relating (Deardorff 2007)
Knowledge & Awareness	Cultural Knowledge	<ul style="list-style-type: none"> Understanding other's world views (Deardorff 2007) Knowing historical and contemporary relationships between one's own and target countries (Byram 1997) Understanding the value of cultural diversity (Deardorff 2007)

Category	Factors	Descriptions of Survey Items
	Sociolinguistic Knowledge	<ul style="list-style-type: none"> • Knowing the relation between language and meaning in social context (Deardorff 2007) • Understanding the role and impact of culture and the impact of situational, social, and historical contexts involved (Deardorff 2007) • Understanding the communication system of target culture (Y. Kim 1988)
Internal Outcome	Adaptability	<ul style="list-style-type: none"> • Adjustment to new cultural environment (Deardorff 2007; Y. Kim 1991) • Ability to adapt to varying intercultural communication and learning styles (Deardorff 2007)
	Flexibility	<ul style="list-style-type: none"> • Cognitive ability to switch frames from etic to emic and back again (Deardorff 2007) • Mental ability to deal with ambiguity and unfamiliarity (Y. Kim 1988)
External Outcome	Effective Communication	<ul style="list-style-type: none"> • Achievement of valued objectives (Deardorff 2007; Spitzberg 1994)
	Appropriate Communication	<ul style="list-style-type: none"> • Avoidance of violating valued rules (Deardorff 2007; Spitzberg 1994)

Part 3 of this instrument measured how important or effective international graduate students perceived instructional design strategies for socially engaged learning to be in their experience. The instructional design strategies for socially engaged learning in four categories and 17 items, presented in Table 2, have been derived from the literature review – (1) gradual engagement and active participation, (2) rich cultural context, (3) self-regulation ability and learning ownership, (4) integration of communication tools.

Table 2. Four categories and instructional design strategies for SEL

Categories	Descriptions for Survey Items (Instructional Design Strategies for Socially Engaged Learning)
Gradual engagement and active participation	<ul style="list-style-type: none"> • Using instructional <i>scaffolding</i> (Collins, et al. 1989) • Making mutual <i>engagement</i> (Wenger 1998) through <i>peer reviewing and reciprocal teaching</i> (Vygotsky 1978) • Providing appropriate <i>models</i> and successful cases (Bandura 1977) • Facilitating frequent <i>social interactions</i> through the <i>collaboration</i> in a small group (Vygotsky 1978)
Rich cultural context	

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- Using *authentic* tasks and problems (Collins 1988; Hung & Chen 2006; Hung, et al. 2006; B. F. Jones, et al. 1994)
 - Anchoring student's *previous experiences and cultural historical backgrounds* (Engeström 1987; Leont'ev 1978)
 - Providing rich *contextual* information (Brown, et al. 1989; Collins, et al. 1989)
 - Making *diverse, equitable, and flexible* learning environment (Hung, et al. 2006; B. F. Jones, et al. 1994)

Self-regulation and learning ownership

- Requiring high *responsibility* for and *ownership* of learning (Bandura 1986; Hung, et al. 2006; M. Wang & Kang 2006)
- Encouraging appropriate *meta-cognitive strategies* (M. Wang & Kang 2006)
 - Goal setting and planning
 - Help-seeking
 - Self- monitoring /evaluating/reflecting (Hung, et al. 2006)

Integration of communication technologies

- Using *computer-mediated communication* for collaborative knowledge construction tool (Jonassen 2000; Jonassen, Davidson, Collins, Campbell, & Haag 1995)
 - *Utilizing asynchronous tools* for effective communication and ensuring enough time to *reflect and articulate* (Hlas, et al. 2008)
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2. Research Quality

This study made several efforts to get evidence of construct validity such as referring to multiple existing resources related to the contents and structure of the survey instrument, getting experts to review the questionnaire, and conducting pilot tests. Four experts from the perspectives of the instructional design, foreign language learning, and international educational fields have provided valuable comments and suggestions and the instrument was significantly improved in terms of the structure, clearness and accuracy, instructions, and scale of the survey. This study conducted pilot-test twice with 16 international graduate students in order to test the effectiveness and comprehensiveness of the survey instrument. While the first pilot-test focused on the contents of survey items with paper-based instrument, the second pilot-test sought to evaluate the online distribution method as well as the survey content itself. In regard to the evaluation of the consistency and stability of the instrument, this study measured the Cronbach alpha coefficients value and the final value for Part 2 and Part 3 of instrument were .853 and .817 respectively.

3. Research Settings

The target population of this study was defined as international graduate students enrolled in a large land-grant university that ranks as one of the leading U.S. institutions with

more than 1,000 international students (Open Doors 2008). Office of Institutional Research and Effectiveness in this university provided the student enrollment status through their website. Of 4,555 enrolled graduate students, 1,644 were international graduate students in spring 2009. Considering the proportion of international graduate students at the university (around 36%), this university was a reasonable research context in which to conduct this study. However, it should be noted that this study is limited to the context a single institution so that this study cannot be generalized to the situations of other universities.

4. Data Collection and Research Participants

Because the research involved human subjects, this study was approved Institutional Review Board prior to data collection. The final version of the web-based survey instrument was delivered by e-mail with an invitation letter containing the informed consent form and a link to the web-based survey instrument. A director of student services for the Graduate School distributed the survey invitation to the target population by way of a listserv of international graduate students. The participants involved in this study were 213 international graduate students. When the five incomplete responses were excluded, the data for analysis consisted of a total of 208 responses and the final response rate was calculated as 12.71%. Table 3 presents the demographic information of survey participants.

Table 3. Demographic Information of Survey Participants

<i>Demographic Information</i>		<i>Students</i>	<i>Valid Percent</i>
Gender	Male	131	63.0
	Female	77	37.0
Marital Status	Single	112	53.8
	Married	92	44.2
	Others	2	1.0
	No response	2	1.0
Age	20 to 29	98	47.1
	30 to 39	98	47.1
	40 to 49	7	3.4
	50 to 59	3	1.5
	No response	2	0.9
Degree	Doctoral	164	78.8
	Masters	42	20.2
	Unspecified	2	1.0
College	Engineering	84	40.4
	Science	34	16.3
	Liberal Arts and Human Sciences	28	13.5
	Natural Resources	14	6.7
	Agricultural and Life Science	12	5.8
	Business	12	5.8
	Architecture and Urban Studies	11	5.3
	Veterinary Medicine	7	3.4
	Inter College	6	2.9

5. Data Analysis

After data collection was complete, quantitative data analysis was conducted by using SPSS 18.0. The major analyses of this study were descriptive statistics to measure the perception of international graduate students. In addition, t-tests and ANOVAs were used to detect significant differences between two or more group means. Finally, the open-ended questions were analyzed to identify other intercultural communicative competences and other instructional strategies that were not included in the items.

IV. Results

1. Intercultural Communicative Competence

The ICC level is a composite scale score obtained by averaging the 20 ICC item scores on the survey instrument. As shown in Table 4, participants perceived themselves as having a *moderately high* level of ICC (Mean=3.84, SD=0.46). This self-reported scale was measured on a six-point Likert scale ranging from 0 = lowest competence to 5 = highest competence. Interestingly, in the sub-factors' ICC levels, the average of attitude (Mean=4.23, SD=0.51) was higher than any other element, including skills (Mean=3.66, SD=0.79) and awareness/knowledge (Mean=3.80, SD=0.79).

At the individual level, this result implies that international graduate students tend to have higher levels of competence in their attitudes, but they are relatively less competent in knowledge and skills for intercultural communication. In the interactional aspect of ICC, participants revealed higher competence for internal outcomes (Mean=3.83, SD=0.63) than for external outcomes (Mean=3.70, SD=0.66). The result of repeated measures of ANOVA detected significant differences among the five factors ($F_5 = 41.65, p < .01$).

Table 4 ICC level perceived by international graduate participants (N=208)

Factors		Mean	SD	F	Sig.
Overall		3.84	0.46		
Individual Aspect	Attitude	4.23	0.51		
	Skills	3.66	0.79		
	Awareness/Knowledge	3.80	0.64	41.65	.000*
Interactional Aspect	Internal Outcome	3.83	0.63		
	External Outcome	3.70	0.66		

Table 5 shows each factor of ICC broken down into sub-factors with their composite scores. The score for respect and openness (Mean=4.48, SD=0.59) was found to be higher than for curiosity and discovery (Mean=3.97, SD=0.71) ($F_2 = 82.66, p < .01$). Acquisitive skills (Mean=3.93, SD=0.79) has a higher mean than applicative skills (Mean=3.38, SD=0.93) ($F_2 = 126.94, p < .01$). The score for cultural knowledge (Mean=3.49, SD=0.76) was lower than for sociolinguistic knowledge (Mean=4.11, SD=0.71) ($F_2 = 149.26, p < .01$). Adaptability (Mean=3.65, SD=0.70) was a lower mean than flexibility (Mean=4.01, SD=0.70) ($F_2 = 68.42, p < .01$). The effective communication score (Mean=3.57, SD=0.81) was lower than the mean score for appropriate communication (Mean=3.98, SD=0.78) ($F_2 = 30.80, p < .01$). The following presents the results of analysis of group differences in ICC levels across (1) demographic backgrounds, (2) academic discipline backgrounds, (3) cultural origins, and (4)

previous experiences.

Table 5 Five Factors of ICC Perceived by international graduate participants (N=208)

Factors		Mean	SD	F	Sig.
Attitude					
	Respect & Openness	4.48	0.59	82.66	.000*
	Curiosity & Discovery	3.97	0.71		
Skills					
	Acquisitive [input]	3.93	0.79	126.94	.000*
	Applicative [output]	3.38	0.93		
Awareness / Knowledge					
	Cultural knowledge	3.49	0.76	149.26	.000*
	Sociolinguistic knowledge	4.11	0.71		
Internal Outcomes					
	Adaptability	3.65	0.70	68.42	.000*
	Flexibility	4.01	0.70		
External Outcomes					
	Effective communication	3.57	0.81	30.80	.000*
	Appropriate communication	3.98	0.78		

1.1. Demographic backgrounds

While the overall ICC level was not significantly different across gender, marital status, and age, the scores from several specific sub-factors or items did reveal statistically significant differences across demographic characteristics. As shown in Table 6, significant differences were found for gender on the items related to adaptability and flexibility ($t=-2.9, p < .05$), with females (Mean=3.85, SD=0.63) scoring higher than males (Mean=3.53, SD=0.71). In the area of applicative skill, particularly the ability to interpret different signs (e.g., gestures, visual marks) or languages (e.g., local expressions or phrases) from different cultures, a significant difference was found for marital status ($t=2.75, p < .05$). Single participants (Mean=3.55, SD=0.87) tended to score higher on this item than married participants (Mean=3.20, SD=0.93). ANOVA revealed significant differences among age groups on acquisitive skill, specifically the ability to listen to long speeches and read articles in English without difficulties ($F_3=3.78, p < .05$). The mean for those over 40 years of age (Mean=4.50, SD=0.85) was significantly higher than the means for the younger groups, ages 20-29 (Mean=3.82, SD=1.15) and 30-39 (Mean=3.52, SD=1.27).

Table 6 Different levels of ICC sub factors across demographic backgrounds

Factors of ICC	Backgrounds	Mean	SD	N	t	F	Sig.
<i>Adaptability & Flexibility</i>	Gender	Female	3.85	0.63	75	-2.9	.003*
		Male	3.53	0.71	130		
<i>Applicative Skill</i>	Marital Status	Single	3.55	0.87	112	2.75	.007*
		Married	3.20	0.93	92		
<i>Acquisitive Skill (Question 6)</i>	Age	20-29	3.82	1.15	98	3.78	.020*
		30-39	3.52	1.27	98		
		40-59	4.50	0.85	10		

Note: * $p < .05$

1.2. Academic discipline backgrounds

In contrast to the lack of statistical significance among academic backgrounds in overall perceived ICC, significant differences were discovered in several specific factors or items. As Table 7 presents, master students (Mean=3.64, SD=0.83) scored significantly higher in applicative skills ($t=2.09$, $p < .05$) than doctoral students (Mean=3.31, SD=0.95). A similar difference was found with regard to perceived adaptability ($t=2.83$, $p < .01$), with master students (Mean=4.08, SD=0.59) scoring higher than doctoral students (Mean=3.69, SD=0.81).

Table 7 Sub-factors of ICC level differences across academic discipline background

Factors of ICC	Academic Backgrounds	Mean	SD	N	t	F	Sig.
Applicative Skills	Degree	Master(s)	3.64	0.83	42	2.09	.037*
		Doctoral	3.31	0.95	164		
Adaptability	Degree	Master(s)	4.08	0.59	38	2.83	.006*
		Doctoral	3.69	0.81	163		
Sociolinguistic Knowledge	College	Group A ¹	4.28	0.67	51	2.13	.034*
		Group B ²	4.08	0.73	142		
Awareness & Knowledge	Major	Computer Science	3.35	0.80	13	2.99	.040*
		Electrical & Computer Engineering	3.69	0.68	28		
		Mechanical Engineering	4.00	0.57	10		
		Engineering Curriculum &	3.98	0.55	21		

Instruction

Note. * $p < .05$

- ¹ Group A is the sum of Architecture and Urban Studies, Business, and Liberal Arts and Human Sciences.
- ² Group B is the sum of Agriculture and Life Science, Engineering, Natural Resources, and Science

To facilitate comparisons among colleges, the colleges were divided into two groups. Group A included Architecture and Urban Studies, Business, and Liberal Arts and Human Sciences, and Group B included Agriculture and Life Science, Engineering, Natural Resources, and Science. A significant difference was found between the two groups on socio-linguistic knowledge ($t=2.13, p < .05$), with Group A (Mean=4.28, SD=0.67) having higher scores than Group B (Mean=4.08, SD=0.81). The four most popular majors were compared by ANOVA which revealed significant differences in items related to awareness and knowledge ($F_4=2.99, p < .05$). Computer Science (Mean=3.35, SD=0.80) and Electrical & Computer Engineering (Mean=3.69, SD=0.68) majors scored lower on these items than Mechanical Engineering (Mean=4.00, SD=0.57) and Curriculum & Instruction (Mean=3.98, SD=0.55) majors.

1.3. Cultural origins

While the overall ICC level was not significantly different across other characteristics, there was significant differences across cultural origins ($F_4=13.57, p < .001$) and native languages ($t=-2.31, p < .05$). As shown in Table 8, students from India (Mean=4.00, SD=0.37) and other countries (Mean=4.03, SD=0.44) revealed a higher overall level of ICC than Korean (Mean=3.60, SD=0.43) or Chinese students (Mean=3.72, SD=0.43). Also, students who had more than one native language (Mean=4.00, SD=0.45) had a higher perceived level of ICC than students who had a single native language (Mean=3.81, SD=0.46).

Table 8 ICC level differences across cultural origins

Cultural Origins		Mean	SD	N	t	F	Sig.
Nationality							
	India	4.00	0.37	30		13.57	.000*
	China	3.72	0.44	47			
	Korea	3.60	0.43	55			
	Other countries	4.03	0.44	76			
More than one native language							
	Yes	4.00	0.45	38	2.31		.022*
	No	3.81	0.46	170			

Note. * $p < .05$

1.4. Previous experiences

The previous experiences of international graduate student were not statistically related to the overall ICC level. However, the differences were dramatically revealed when looking at the sub-factors of ICC level. As shown in Table 9, participants who had more than 6 years of working experience were more confident than those with less experience in knowledge about the social characteristics of language ($t=-2.10, p < .05$), adaptability in the use of appropriate

strategies for adjusting to the new cultural environment ($t=-2.50, p <.05$), and flexibility in considering others' feelings, emotions, situations, or thoughts and the consideration of these for effective communication ($t=-2.72, p <.05$).

However, participants with less than 6 years working experience perceived higher competence in interacting appropriately in a variety of situations within the new culture ($t=2.12, p <.05$). There was a difference in acceptance that there were some times that they may not understand differences between cultures, by the number of years in the U.S ($F_4=3.12, p <.05$). Students with previous intercultural experience (Mean=3.38, SD=0.92) presented more competence in interpreting signs or languages from different cultures ($F=2.69, p <.01$) than those without such experience.

Table 9 Sub-factors of ICC across previous experiences

Factors	Previous experiences	M	SD	N	t	Sig.	
<i>Awareness & Knowledge (Question 12)</i>	Working	less than 6 years	3.81	0.98	93	-2.10	.037*
		more than 6 years	4.18	0.80	38		
<i>Adaptability (Question 13)</i>	Working	less than 6 years	3.66	0.87	94	-2.50	.014*
		more than 6 years	4.15	0.66	38		
<i>Flexibility (Question15)</i>	Working	less than 6 years	3.90	0.80	94	-2.72	.007*
		more than 6 years	4.32	0.74	38		
<i>Appropriateness (Question20)</i>	Working	less than 6 years	4.13	0.79	92	2.12	.036*
		more than 6 years	3.76	1.13	38		
<i>Attitude</i>	Years in the U.S.	2 years	4.39	0.75	33	3.12	0.28
		3 years	3.81	1.20	21		
		4 years	4.11	0.66	19		
		5 years	4.37	0.67	57		
<i>Skill (Question7)</i>	Intercultural Experiences	Yes	3.38	0.92	94	2.96	.003*
		No	2.98	1.01	113		

2. Instructional Design Strategies for Socially Engaged Learning

The overall perception about ID strategies for SEL is a scale score obtained by averaging the 17 item scores. As shown in Table 10, international graduate students agreed that the ID strategies for SEL were important strategies for helping them to better learn and successfully study in their graduate programs (Mean=3.78, SD=0.54). This self-reported measure used a six-point Likert scale ranging from 0=strong disagreement, implying the lowest importance,

to 5=strong agreement, implying the highest level of importance.

On the four sub-categories, survey participants agreed more strongly with the items related to gradual engagement and active participation (Mean=3.93, SD=0.63) and rich cultural context (Mean=3.93, SD=0.68) than the items related to self-regulation and learning ownership (Mean =3.74, SD=0.58) and integration of communication tools (Mean=3.52, SD=0.92). The result of repeated measures of ANOVA detected significant differences among the four factors ($F_4 = 25.69, p < .01$).

Table 10 Perceived Effectiveness on ID Strategies for Socially Engaged Learning

ID Strategies for SEL	Mean	SD	F	Sig.
Overall	3.78	0.54		
Sub Categories				
Gradual Engagement and Active Participation	3.93	0.63		
Rich Cultural Context	3.93	0.68	25.69	.000*
Self-Regulation and Learning Ownership	3.74	0.58		
Integration of Communication Tools	3.52	0.92		

2.1. Gradual Engagement and Active Participation

Respondents could learn more effectively when the instructor provided greater structure (Mean=3.98, SD=0.97). More than half of the respondents to the item stating that they could learn more effectively with opportunities for interacting with other students through reviewing each other's work or teaching each other (Mean=3.95, SD=0.90). There was a higher level of agreement with the effectiveness of using sample cases or models to observe, interpret, and apply to their own work (Mean=4.19, SD=0.76). However, in regard to using group learning or team work rather than individual work, only 37.3% (n=76) of respondents agreed and 21.2% (n=43) strongly agreed (Mean=3.60, SD=1.13). In this category, there was no group difference in every item except the third one about the effectiveness of sample cases or models. As shown in Table 11, compared to Indian (Mean 3.96, SD=0.92) or Korean students (Mean=3.98, SD=0.76), participants coming from China (Mean=4.27, SD=0.62) and other countries (Mean=4.38, SD=0.74) strongly agreed with the importance of sample cases or models for their own work.

Table 11 Differences of Perceived Effectiveness about Gradual Engagement across Students' Nationality

Nationality	Mean	SD	N	F	Sig.
3. with sample cases or models	3.96	0.92	26	4.06	.008*
... to my own work.	4.27	0.62	44		
India	3.98	0.76	55		
China	4.38	0.74	73		

Note. * $p < .05$

2.2. Rich Cultural Context

Instructional design strategies that emphasize rich cultural context were represented by five items. For the first item concerning the perceived effectiveness of activities or projects related to real world issues, most respondents agreed that this was an effective strategy. A large proportion of respondents (44.9%, $n=92$) strongly agreed that they could learn more effectively when the tasks were connected to their previous experiences (Mean=4.30, SD=0.81). This item had the highest mean score of all the items in Part 3 of the survey. On the other hand, fewer participants supported the importance of connecting learning tasks with their specific cultural situation (Mean=3.68, SD=1.20). It is noteworthy that 17 participants (8.4%) indicated that they had not experienced such an instructional strategy in their classes. Most participants could learn more effectively when an instructor provided detailed background information such as the history, origin, or related stories to explain concepts or words (Mean=4.02, SD=1.0). Participants presented different perceptions about working collaboratively with culturally different learners and they regarded this strategy as relatively less important (Mean=3.47, SD=1.03). Specifically, 12.7% ($n=26$) of respondents slightly disagreed and 4.4% ($n=9$) disagreed that collaboration with other learners from different cultural backgrounds was an effective strategy, while 40.7% ($n=83$) agreed and 12.7% ($n=26$) strongly agreed.

T-test analysis found significant differences in responses to Question 6 (“when the tasks are connected to my previous experience”) and Question 7 (“when the tasks are related to my specific cultural situation”) across gender, degree, college, and language. As shown in Table 12, female participants had a higher rate of agreement with the task’s connection to their previous experiences ($t=-2.30$, $p < .05$) and the task’s relevance to their specific cultural situation ($t=-2.45$, $p < .05$) as important strategies than male participants. In regard to the effectiveness of the strategy of incorporating tasks with students’ specific cultural situations, it was found that perceptions differed across degree, college, and language. That is, doctoral students (Mean=3.78, SD=1.21) considered this strategy more important than master students (Mean=3.32, SD=1.12) ($t=-2.12$, $p < .05$). Participants from Architecture and Urban Studies, Business, and Liberal Arts and Human Sciences (Mean=4.02, SD=1.09) more strongly agreed with the importance of this strategy than did the participants from Agriculture and Life Science, Engineering, Natural Resources, and Science (Mean=3.56, SD=1.21; $t=2.28$, $p < .05$). This strategy was also considered more important ($t=-2.1$, $p < .05$) by respondents who had a single native language (Mean=3.77, SD=1.13) than those who had more than one native language (Mean=3.26, SD=1.46).

Table 12 Differences of Perceived Effectiveness of Rich Cultural Context across Students' Backgrounds

	Backgrounds		Mean	SD	N	t	Sig.
6. when the tasks ... my previous experiences.	Gender	Male	4.20	0.90	128	-2.30	.02*
		Female	4.47	0.60	74		
7. when the tasks ... my specific cultural situation.	Gender	Male	3.53	1.28	128	-2.45	.023*
		Female	3.97	0.98	74		
	Degree	Master(s)	3.32	1.12	38	-2.12	.35*
		Doctoral	3.78	1.21	147		
	College	Group A ¹	4.02	1.09	47	2.28	.024*
Group B ²		3.56	1.21	128			
Language	Multiple Native	3.26	1.46	31	-2.1	0.030*	
	Single Native	3.77	1.13	155			

Note. * $p < .05$

2.3. Self-Regulation and Learning Ownership

Instructional design strategies related to self-regulation and learning ownership comprise six items. Compared to other items in this category, participants agreed less strongly with questions 10 through 13, which are related to responsibility and ownership of learning. However, participants revealed more positive responses to the feedback related strategies in questions 14 and 15. Most participants agreed that they could learn more effectively when they received immediate feedback from their instructors (Mean=4.14, SD=0.81). Participants even more strongly agreed with receiving detailed feedback (Mean=4.30, SD=0.79).

As shown in Table 13, it was found that doctoral students (Mean=3.44, SD=1.03) more strongly agreed than master students (Mean=2.95, SD=1.16) that they could learn more effectively when the research topic was set by themselves ($t=-2.60, p < .05$). For the questions about feedback, participants who had some specific majors such as Computer Science (Mean=4.38, SD=0.65) and Curriculum and Instruction (Mean=4.42, SD=0.69) more strongly agreed with the importance of immediate feedback than other students from programs such as Electrical and Computer Engineering (Mean=3.92, SD=0.93) and Mechanical Engineering (Mean=3.60, SD=0.97; $F=3.07, p < .05$). Korean participants (Mean=3.84, SD=0.69) revealed lower agreement with the importance of immediate feedback than students from other countries ($F=4.53, p < .01$). A statistically significant difference between genders was observed on the effectiveness of detailed feedback from the instructors ($t=-2.13, p < .05$), with female participants (Mean=4.45, SD=0.75) agreeing more strongly than male participants (Mean=4.21, SD=0.80).

Table 13 Differences of Perceived Effectiveness of Self-regulation across Students' Background

	Backgrounds	Mean	SD	N	t	F	Sig.
10. when the research topic is set by myself ...	Degree						
	Master(s)	2.95	1.16	38	-2.60		0.010*
	Doctoral	3.44	1.03	162			
14. when I get immediate feedback from my instructors.	Major ¹						
	CS	4.38	0.65	13		3.07	0.034*
	ECE	3.92	0.93	26			
	ME	3.60	0.97	10			
	C&I	4.42	0.69	19			
	Nationality						
	India	4.11	0.80	57		4.53	0.004*
	China	4.20	0.83	46			
	Korea	3.84	0.86	55			
	Others	4.35	0.71	74			
15. when I get detailed feedback from my instructors.	Gender						
	Male	4.21	0.80	126	-2.13		0.03*
	Female	4.45	0.75	73			

Note. ¹CS: Computer Science, ECE: Electrical and Computer Engineering, ME: Mechanical Engineering, C&I: Curriculum and Instruction

2.4. Integration of Communication Tools

The last two questions in Part 3 of the survey were about the integration of communication tools. Compared with items in other categories, participants were very widely distributed in their ratings of the instructional strategies related to this category. However, they moderately supported the effectiveness of using computers to communicate with their instructors and other students (Mean=3.45, SD=1.17). Question 17 asked whether participants considered a synchronous environment (chatting, conferencing, and face-to-face discussion) more effective for learning than an asynchronous environment (discussion boards and e-mail). For this question, most participants (78.7%) agreed that participating in synchronous communication was more effective for learning (Mean=3.6, SD=1.16). No significant difference across students' background characteristics were found for the items in this category.

V. Discussion and Conclusion

The findings of this research indicated that it is challenging for instructional designers and instructors to accept that their students have different cultural backgrounds, that students may not understand the instructional designers and instructors or be able to meet their expectations. Two suggestions to overcome the difficulties and build a bridge between such gaps were considered. First, as previous literature suggested, instructional designers should become flexible by developing intercultural communicative competency. Second, as this

present study has addressed, they can incorporate more active approaches with the ID strategies for socially engaged learning.

In regard these two suggestions, Rogers, Graham, and Mayes(2007) overarched them and provided useful insights. That is, instructional designers can apply the universal and basic instructional design principles, which are similar to the perspective of Branch (1997), as well as build cultural competency with more cultural awareness. Through analysis of qualitative interviews with 12 professionals who had been involved in instructional design for culturally different people, they concluded that:

there are deeper and perhaps more universal instructional design principles that need to be separated from particular application. At the same time, however, they immediately couple this with an awareness of the need to find out where people are coming from so one can know where and how to build bridges. In addition to explicitly teaching certain meta-cognitive skills, the participants gave other examples of attempts at building bridges include supplementing the instruction with a wider variety of appropriate examples, finding ways to increase learner flexibility, offering language support...(p. 214)

The present study confirmed several strategies that Rogers et al. (2007) stated above and, further, this study added more systematic strategies in socially engaged learning that might contribute to “building the bridges,” borrowing their expression . Socially engaged learning fits well with these needs to build bridges because this framework is fundamentally based on three social theories of learning that emphasize bridging the gaps between mind and action, between thoughts and behavior, between the individual aspect of learning and social aspect of learning, and between the culturally independent or separable unit and the culturally connected or situated unit.

This study showed the major findings from the perceptions on ICC and effective ID strategies for socially engaged learning. Result showed international graduate students who were diverse in background characteristics, academic disciplines, cultural origins, and previous experiences perceived a moderately high level of ICC, and they generally had positive views on instructional design strategies for socially engaged learning. The detailed findings from the research can help instructional designers and instructors in higher education to better understand the needs of international graduate students and prepare them to study more effectively and have more valuable intercultural experiences.

In addition to the value of the research findings, the ICC model and instrument, as an analysis tool that were utilized to derive the results, might be useful for future research and applications. This study showed the usefulness of ICC as a lens to better understand target learners and analyze their attitude, knowledge, skills, adaptability/flexibility, and communication in intercultural situations. The result of analysis is an important input for instructional designers to make decisions in preparing and implementing instructions for culturally diverse learners. This study supports the view that students’ ICC should be analyzed systematically and considered not only in the beginning of the ID process but also throughout the whole process of ID. This perspective is consistent with Thomas, et al. (2002) and Young (2008a, 2009) and it extends the scope of learner analysis more dynamically.

Assessing students’ ICC level is meaningful not only for instructional designers, but also

students themselves because students are able to reflect on themselves and assess their ability for intercultural communication. They also agreed that a self-reported type of ICC instrument was useful to assess the ICC level of students and to observe the improvement of ICC by conducting pre-and post-instruction surveys. It was a meaningful progress that this present study developed an instrument based on multiple ICC definitions, concepts, models, and constructs and utilized it in an off-line based higher education context, while revised the instrument by modifying Fantini's (2005) YOGA inventory and utilized it with high school students in cross-cultural online instruction.

Further, in considering the growing needs and markets of cross-cultural online learning including the emergence of MOOC (Massive Open Online Course), the ICC instrument and model can be effectively utilized for assessing online students. As information and communication technology has advanced, a great deal of recent research has been conducted in web-based learning or online learning environments where more and more students experience intercultural communication and cultural differences. Many studies and discussions that deal with cultural issues in IDT in the context of web-based instruction (Henderson 1996; McLoughlin 1999, 2001; Rogers, et al. 2007; C. Wang & Reeves 2007; Young 2008a, 2008b, 2009) support such trends.

Also, in considering that intercultural communication applies not only to international students but also to other domestic students, future studies can be conducted by investigating the perceptions on ICC of all classifications of graduate students including international and domestic students. Therefore, future research and application can expand the assessment of ICC from the boundary of offline to the online environment; and from the focus of international students to all students in a specific program.

Above all, instructional design strategies for socially engaged learning provide practical guidelines for instructional designers and instructors. Socially engaged learning, including its four categories, has been theoretically conceptualized based on three social theories of learning: social learning theory (Bandura 1977), explaining an individual's social and psychological functioning; sociocultural theory (Vygotsky 1978) and activity theory (Engeström 1987; Leont'ev 1978), explaining social and cultural impacts on learning; and situated learning theory (Brown, et al. 1989; Lave & Wenger 1991).

Lastly, in providing instructional design implications for culturally diverse students, this study suggested that instructional designers should be flexible between cultural inclusivity and sensitivity, and try to implement more actively the ID strategies for socially engaged learning. These suggestions made to instructional designers become big challenges; thus, programs in instructional design and technology need to consider including such content in the curriculum and instruction for training instructional designers to develop their cultural competency.

Reference

- Al-Sharideh, Khalid A., and W. Richard Goe. "Ethnic Communities within the University: An Examination of Factors Influencing the Personal Adjustment of International Students." *Research in Higher Education* 39, no. 6 (1998): 699-725.
- Baek, Mikyoung, and Suzanne K. Damarin. "Computer-Mediated Communication as Experienced by Korean Women Students of Us Higher Education." *Language and Intercultural Communication* 8, no. 3 (2008): 2008.
- Bandura, Albert. *Social Foundations of Thought and Action*. Englewood Cliffs, NJ: Prentice-hall, 1986.
- . *Social Learning Theory*. New York: General Learning Press, 1977.
- Brill, Jennifer M., and Yeonjeong Park. "Facilitating Engaged Learning in the Interaction Age Taking a Pedagogically-Disciplined Approach to Innovation with Emergent Technologies." *International Journal of Teaching and Learning in Higher Education* 20, no. 1 (2008): 70-78.
- Brooks, Gordon, and Moya Adams. "Spoken English Proficiency and Academic Performance: Is There a Relationship and If So, How Do We Teach?" Paper presented at the Conference of celebrating teaching at Macquarie North Ryde, NSW: Macquarie University 2002.
- Brown, John S., Allan Collins, and Paul Duguid. "Situated Cognition and the Culture of Learning." *Educational Researcher* 18, no. 1 (1989): 33-42.
- Bulger, Monica, Richard E. Mayer, and Kevin C. Almeroth. "Engaged by Design: Using Simulations to Promote Active Learning." Paper presented at the World conference on educational multimedia, hypermedia and telecommunications, Chesapeake, VA, 2006.
- Byram, Michael. *Teaching and Assessing Intercultural Communicative Competence*. Clevedon: UK: Multilingual Matters Ltd, 1997.
- Canale, Michael, and Merrill Swan. "Theoretical Bases of Communicative Approaches to Second Language Teaching and Testing." *Applied Linguistics* 1, no. 1 (1980): 1-47.
- Collins, Allan. *Cognitive Apprenticeship and Instructional Technology*. BBN Laboratories Incorporated (Cambridge, MA: 1988).
- Collins, Allan, John Seely Brown, and Susan E. Newman. "Cognitive Apprenticeship: Teaching the Crafts of Reading, Writing, and Mathematics." In *Knowing, Learning, and Instruction: Essays in Honor of Robert Glaser*, edited by Lauren B. Resnick, 453-94. Hillsdale, NJ: Lawrence Erlbaum Associates, 1989.
- Deardorff, Darla K. "A Model of Intercultural Competence and Its Implications for the Foreign Language Curriculum." In *Aausc 2006: Insights from Study Abroad for Language Programs*, edited by Sharon Wilkinson, 86-98. Boston, MA: Thomson Heinle, 2007.
- 55 Vol.63 No.4 *Studies in Humanities and Social Sciences*.

- Engeström, Yrjo. *Learning by Expanding*. Helsinki: Orienta-Konsultit, 1987.
- Fantini, Alvino E. "About Intercultural Communicative Competence: A Construct." September 3, 2009 2005. http://www.sit.edu/SITOccasionalPapers/feil_appendix_e.pdf.
- . "A Central Concern: Developing Intercultural Competence." September 3, 2009 2000. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.117.8512&rep=rep1&type=pdf#page=33>.
- . *Exploring and Assessing Intercultural Competence: Federation of the Experiment in International Living Research Project*. Center for Social Development at Washington University (St. Louis, Missouri: 2006).
- Fraenkel, Jack R., and Norman E. Wallen. *How to Design and Evaluate Research in Education*. 6th ed. New York, NY: The McGraw-Hill Company, Inc., 2006.
- Gudykunst, William B., and Young Y. Kim. *Communicating with Strangers*. 3rd ed. New York: McGraw-Hill, 1997.
- Hlas, Anne Cummings, Kathy L. Schuh, and Stephen M. Alessi. "Native and Non-Native Speakers in Online and Face-to-Face Discussions: Leveling the Playing Field." *Journal of Educational Technology Systems* 36, no. 4 (2008): 337-73.
- Huang, Jiafen. *Students' Learning Difficulties in a Second Language Speaking Classroom*. (ERIC Document Reproduction Service No. ED420. 193), 1998.
- Hung, David, and Derthanq Victor Chen. "Context-Process Authenticity in Learning: Implications for Identity Enculturation and Boundary Crossing." *Educational Technology Research and Development* 55, no. 2 (2006): 147-67.
- . "Situated Cognition, Vygotskian Thought and Learning from the Communities of Practice Perspective: Implications for the Design of Web-Based E-Learning." *Educational Media International* 38, no. 1 (2001): 3-12.
- Hung, David, Seng Chee Tan, and Thiam Seng Koh. "Engaged Learning: Making Learning an Authentic Experience." In *Engaged Learning with Emerging Technologies*, edited by David Hung and Myint Swe Khine. Dordrecht, Netherlands: Springer, 2006.
- Hymes, Dell H. "On Communicative Competence." In *Sociolinguistics: Selected Readings*, edited by J. B. Pride and Janet Holmes. Penguin Modern Linguistics Readings, 269–93. Baltimore, Md: Penguin Books Ltd., 1972.
- Jonassen, David H. "Revisiting Activity Theory as a Framework for Designing Student-Centered Learning Environments." In *Theoretical Foundations of Learning Environments*, edited by David H. Jonassen and Susan M. Land, 89-121. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers, 2000.
- . "Toward a Design Theory of Problem Solving." *Educational Technology Research and Development* 48, no. 4 (2000): 63-85.

- Jonassen, David H., Mark Davidson, Mauri Collins, John Campbell, and Brenda Bannan Haag. "Constructivism and Computer-Mediated Communication in Distance Education." *American Journal of Distance Education* 9, no. 2 (1995): 7-26.
- Jones, Beau Fly, Gilber Valdez, Jeri Nowakowski, and Claudette Rasmussen. *Designing Learning and Technology for Educational Reform*. North Central Regional Educational Lab (1994).
- Kim, YoungYun. *Communication and Cross-Cultural Adaptation: An Integrative Theory*. Intercommunication 2. Edited by Howard Giles and Cheris Kramarae. Philadelphia, PA: Multilingual Matters Ltd., 1988.
- . "Intercultural Communication Competence: A Systems-Theoretic View." In *Cross-Cultural Interpersonal Communication*, edited by Stella Ting-Toomey and F. Korzenny, 259-94. Newbury Park: Sage, 1991.
- Ku, Heng-Yu, Maria K. E. Lahman, Hsin-Te Yeh, and Yi-Chia Cheng. "Into the Academy: Preparing and Mentoring International Doctoral Students." *Educational Technology Research and Development* 56, no. 3 (2008): 365-77.
- Lave, Jean, and Etienne C. Wenger. *Situated Learning: Legitimate Peripheral Participation*. New York: Cambridge University Press, 1991.
- Leont'ev, Aleksei Nikolaevich. *Activity, Consciousness, and Personality*. Translated by Marie J. Hall. Englewood Cliffs, NJ: Prentice-Hall, Inc., 1978.
- Means, Barbara, John Blando, Kerry Olson, Teresa Middleton, Catherine Cobb Morocco, Arlene R. Remz, and Judith Zorfass. *Using Technology to Support Education Reform*. Office of Educational Research and Improvement, U.S. Department of Education (Washington, DC: 1993).
- Peng, Hsinyi, Wei-Hsin Lu, and Chao-I Wang. "A Framework for Assessing High School Students' Intercultural Communicative Competency in a Computer-Mediated Language Learning Project." *Journal of Interactive Learning Research* 20, no. 1 (2009): 65-116.
- Powell, Gary. "Diversity and Educational Technology: Introduction to Special Issue." *Educational Technology* 37, no. 2 (1997): 5.
- Powell, Robert, and Janis Andersen. "Culture and Classroom Communication." In *Intercultural Communication: A Reader*, edited by Larry A. Samovar and Richard E. Porter, 322-30. Belmont, California: Wadsworth Publishing Company, 1994.
- Poyrazli, Senel, and Philip R. Kavanaugh. "Marital Status, Ethnicity, Academic Achievement, and Adjustment Strains: The Case of Graduate International Students." *College Student Journal* 40, no. 4 (April 26, 2009 2006): 767-80.
- Rogers, P. Clint, Charles R. Graham, and Clifford T. Mayes. "Cultural Competence and Instructional Design: Exploration Research into the Delivery of Online Instruction

- Cross-Culturally." *Educational Technology Research and Development* 55, no. 2 (2007): 197-217.
<http://ezproxy.lib.vt.edu:8080/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=EJ786789&site=ehost-live&scope=site>
<http://dx.doi.org/10.1007/s11423-007-9033-x>.
- Samovar, Larry A., and Richard E. Porter. *Intercultural Communication: A Reader*. 7th ed. Belmont, CA: Wadsworth Publishing Company, 1994.
- Spitzberg, Brian H. "A Model of Intercultural Communication Competence." In *Intercultural Communication: A Reader*, edited by Larry A. Samovar and Richard E. Porter, 347-59. Belmont, California: Wadsworth Publishing Company, 1994.
- Subramony, Deepak Prem. "Instructional Technologists' Inattention to Issues of Cultural Diversity among Learners." *Educational Technology* 44, no. 4 (2004): 19-24.
- van Ek, Jan A. *Objectives for Foreign Language Learning: Education and Culture*. Vol. II, Germany: Council of Europe, 1986.
- Vygotsky, L. S. *Mind in Society: The Development of Higher Psychological Processes*. London: Harvard University Press, 1978.
- Wang, Minjuan, and Myunghee Kang. "Cybergogy for Engaged Learning: A Framework for Creating Learner Engagement through Information and Communication Technology." In *Engaged Learning with Emerging Technologies*, edited by David Hung and Myint Swe Khine, 225-53. Dordrecht, Netherlands: Springer, 2006.
- Wenger, Etienne C. *Communities of Practice: Learning, Meaning, and Identity*. New York: Cambridge University Press, 1998.
- Yildiz, Senem, and Barbara A. Bichelmeyer. "Exploring Electronic Forum Participation and Interaction by Efl Speakers in Two Web-Based Graduate-Level Courses." *Distance education* 24, no. 2 (2003): 175-93.
- Zimmerman, Stephanie. "Perceptions of Intercultural Communication Competence and International Student Adaptation to an American Campus." *Communication Education* 44, no. 4 (1995): 321-35.