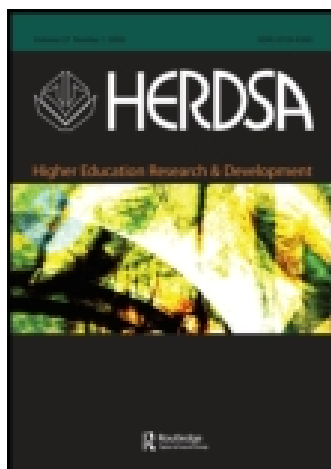


This article was downloaded by: [University of Glasgow]

On: 08 September 2015, At: 08:47

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: 5 Howick Place, London, SW1P 1WG



Higher Education Research & Development

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/cher20>

Does higher education foster critical and creative learners? An exploration of two universities in South Korea and the USA

Hye-Jung Lee^a, Jihyun Lee^b, Kara A. Makara^a, Barry J. Fishman^a & Young-II Hong^c

^a School of Education, University of Michigan, Ann Arbor, MI, USA

^b Department of Education, Chung-Ang University, Seoul, South Korea

^c Department of Education, Seoul National University, Seoul, South Korea

Published online: 04 Apr 2014.



[Click for updates](#)

To cite this article: Hye-Jung Lee, Jihyun Lee, Kara A. Makara, Barry J. Fishman & Young-II Hong (2015) Does higher education foster critical and creative learners? An exploration of two universities in South Korea and the USA, Higher Education Research & Development, 34:1, 131-146, DOI: [10.1080/07294360.2014.892477](https://doi.org/10.1080/07294360.2014.892477)

To link to this article: <http://dx.doi.org/10.1080/07294360.2014.892477>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

Does higher education foster critical and creative learners? An exploration of two universities in South Korea and the USA

Hye-Jung Lee^a, Jihyun Lee^{b*}, Kara A. Makara^a, Barry J. Fishman^a and Young-Il Hong^c

^a*School of Education, University of Michigan, Ann Arbor, MI, USA;* ^b*Department of Education, Chung-Ang University, Seoul, South Korea;* ^c*Department of Education, Seoul National University, Seoul, South Korea*

This paper describes two studies that explore students' beliefs about critical and creative learning at two universities, and considers the implications of those beliefs in comparison to the universities' stated education goals. One is a mixed method study of students at a top university in Korea, and the second is a comparative study between the Korean university and a United States (US) university. The first study found that both high-achievers and the general population at a top Korean university perceived their critical and creative abilities as lower than their receptive learning abilities, and that higher achievers were neither more critical nor creative than lower achievers. The second study finds that the Korean university students, compared to US students, were more likely to rate their receptive learning ability as higher than their critical and creative learning abilities. Comparisons across year of higher education (HE) suggest that Korean students' perceptions did not significantly change with respect to year in school, while US students' perceptions of critical learning abilities significantly increased across school years. Results are discussed with respect to the impact of culture, epistemological beliefs, and HE instruction on critical and creative learning.

Keywords: Korean education; creative learning; critical thinking; cultural difference; epistemological belief; higher education; learning approaches; learners' perceived ability; receptive learning

Introduction

Traditionally, higher education (HE) institutions pursue advanced research and scholarship where knowledge claims can be freely critiqued, and innovation and creativity are encouraged (Biggs, 1992; Laurillard, 2002). In a sample of United States (US) faculty members, more than 90% consider critical thinking to be the most important goal of undergraduate education (Bok, 2006). Universities across the world have set missions such as 'pioneering knowledge', 'creating a vibrant intellectual community', and 'challenging the present and enriching the future'. Learners within HE are expected to actively engage in higher-order thinking and knowledge creation, rather than passive reception of given knowledge (Bok, 2006; Klein, Benjamin, Shavelson, & Bolus, 2007; Niu & Sternberg, 2003).

However, researchers and educators have cautioned that many HE courses rely heavily on the unilateral delivery of knowledge through lectures and textbooks, with

*Corresponding author. Email: leeji@cau.ac.kr

concurrent tests assessing pre-defined ‘right’ answers (Laurillard, 2002; McNaught & Young, 2011). This delivery-reception model is evident even in the recent movement of Open Course Ware and Massive Open Online Courses (Daniel, 2012). Learners might thus substantially depend on their receptive abilities, that is, remembering and reproducing knowledge, rather than on critical and creative thinking. Although there have been many advances in HE pedagogies (e.g., the HE Academy organization in the UK), the tendency for didactic instruction and promotion of receptive learning is still a feature of many HE institutions despite their recent efforts advocating more critical or creative modes of learning (Choi, Chae, Seo, & Min, 2011; Laurillard, 2002).

Given these concerns, how well do our current HE institutions foster learners’ critical and creative learning abilities in practice? If HE institutions are effectively fostering critical and creative learners and evaluating them accordingly, the impact should be apparent through students’ learning outcomes (Arum, Roksa, & Velez, 2008; Biggs, 1992; Klein et al., 2007; McNaught, 2009). The highest academic achievers in particular should demonstrate critical and creative abilities better than lower achievers because their high grades imply that they have successfully mastered the university’s declared goals (Biggs, 1992; James, McInnis, & Devin, 2012; Stassen, Herrington, & Henderson, 2011). The assessment criteria within HE courses is critical to understanding how the institutions would *like* students to learn (James et al., 2012; Joanna, 1996; McNaught & Young, 2011) because ‘students often work “backwards” through the curriculum, focusing first and foremost on how they will be assessed’ (James et al., 2012, p. 8).

From a broader perspective, sociocultural factors can also impact the development of critical and creative learning abilities. How various cultures may differ in their learning approaches has been at the center of intense debate. Numerous studies have documented Asian or Confucian Heritage Culture (CHC) students’ passive and rote learning style, which is typified as being compliant, more tolerant to contradictions or conflicts, and absorbing knowledge delivered by teachers (e.g., Biggs, 1989, 1992; Holliday, Hyde, & Kullman, 2004). Studies report that Asian learners tend to think less critically, whereas Westerners tend to use formal rule-based reasoning (Lun, Fischer, & Ward, 2010; Nisbett, 2003). Regarding cultural differences in creativity, the Eastern approach to learning promotes the reinterpretation and re-creation of tradition (Amabile, 1996; Runco, 2004; Sternberg, 1999), while Western approaches promote novel inventions and originality (Sternberg, 1999), which could suggest lower development of creativity in Asian populations. Some scholars also note cultural influences on students’ epistemological beliefs, that is, how they perceive knowledge or knowing, which can affect students’ approaches to learning (Hofer, 2008; Li, 2003; Nisbett, 2003; Tsai, 2008).

However, many researchers have criticized the stereotypical argument of Eastern versus Western learning approaches. Beyond culture, students’ critical and creative learning skills are strongly influenced by disciplines (e.g., Becher & Trowler, 2001; Hargreaves, 2009), language (e.g., Cortazzi & Jin, 1996; Kirkpatrick, 2002; Singh & Doherty, 2004), teachers’ instructional methods (Trans, 2013), pre-university education (Biggs, 1992), and the overall institutional system (Trans, 2013). These scholars are aware that culture is a convenient way to explain differences, but that cultural differences are often over-generalized and national groups are considered monolithic, which can produce an inappropriate account of learners (Holliday et al., 2004; Palfreyman & McBride, 2007).

With these perspectives in mind, this paper examines whether two HE institutions are fostering students' critical and creative thinking abilities as declared in their missions. First, in the setting of a Korean HE institution, Study One explores high-achievers' perceptions of their critical and creative abilities, and investigates the broader student population in order to discover which learning abilities are promoted. Study Two compares students' perceptions of their critical and creative abilities across two HE institutions in different cultural contexts, one Korean and one in the USA. The studies are based on students' perceptions of their relative abilities, which we posit as one crucial learning outcome of a HE institution (McNaught, 2009; Yammarino & Atwater, 2006) since students' perceived abilities might impact future educational and career choices. Students' perceptions of their critical and creative learning abilities are measured relative to their receptive learning ability. *Receptive learning* is defined as understanding, remembering, and reproducing what is taught, *critical learning* as criticizing and evaluating ideas from multiple perspectives, and *creative learning* as creating new ideas or artifacts from what is learned.

Research questions in Study One:

Q1: What are high-achieving Korean students' perceptions of their critical, creative, and receptive learning abilities?

Q2: How does the broader student population's perceptions of their critical, creative, and receptive learning abilities at the Korean university compare to the high-achieving students' perceptions?

Research questions in Study Two:

Q3: Are there differences in students' perception of their critical, creative, and receptive learning abilities between two culturally different universities (one in Korea and one in the US)?

Q4: Are there differences in students' perception of their relative learning abilities within and between the institutions in terms of gender, major, race/ethnicity, and grade level?

Methods

The first study is a mixed method study using sequential exploratory methods (Creswell, 2009). A group of higher achievers in a South Korean HE institution were interviewed and a set of themes were identified (Q1), which then were verified by the broader sample of the institution (Q2). The second study compared Korean and US university students' perceptions of their learning abilities to investigate cultural and institutional influences (Q3 and Q4).

Study One

Forty-six high-achievers (volunteers from a pool of students with grade point average [GPA] > 4.00; top 3%) at a highly ranked public university in Korea were interviewed because these students can be considered to have successfully met the educational goals of their university as indicated by their high achievement. The interviewees were 65% female; their majors were 25% social science, 20% natural science, 14% law, 7%

business, 7% humanities, 7% engineering, 11% art and music, and 9% other. Participants were provided definitions of each mode of learning and then were asked to rate and discuss their critical and creative learning abilities compared to their receptive learning ability. All interviews were recorded and transcribed. The transcribed data were codified (Spradly, 1980) and verified by two external raters. Inter-rater reliability (Cohen's Kappa) was 0.89.

This was followed by a quantitative exploration from 1111 students in the same Korean university, designed to build on the qualitative results. Survey respondents were 52% female, 37.4% freshmen, 22.4% sophomores, 17.3% juniors, and 23% seniors. Their majors were 14% social sciences, 16% engineering, 9% natural science, 12% agriculture, 11% liberal arts, 6% music & arts, 13% education, and 18% undeclared. By GPA, 8.9% were between 4.00 and 4.30, 39.1% between 3.50 and 3.99, 34.1% between 3.00 and 3.49, 12.0% between 2.50 and 2.99, and 6.0% below 2.5. Students were given definitions of the three learning abilities and asked to indicate whether their critical learning abilities and whether their creative learning abilities were higher than, the same as, or lower than their receptive learning abilities. This measure provides a useful categorization for summarizing and comparing students' perceptions of their learning abilities and will allow us to conduct cross-cultural comparisons, since the alternative of rating each learning ability along a mean could be susceptible to culturally biased response tendencies (Chen, Lee, & Stevenson, 1995; Harzing, Brown, Köster, & Zhao, 2012).

Study Two

In order to investigate cultural differences in students' perception of their receptive, critical, and creative learning abilities, we compared Korean and US student responses. A survey based on the Korean survey was administered at a highly ranked public US university. While Korean students were sampled toward the end of the school year, US students were sampled at the beginning of the school year and, therefore, freshmen were not sampled since they may not have yet developed beliefs about their college learning abilities. We filtered out 71 US international students' responses into a separate sub-sample in order to compare US national with Korean national students, resulting in a US sample size of 821. While South Korean students are primarily Korean in ethnicity, the US sample was 70% White, 14% Asian American, 4% Hispanic, 3% Black, and 9% other or not indicated. Students were 34% sophomores, 32% juniors, and 34% seniors; and 67% female. Their majors were 20% social sciences, 19% engineering, 19% natural science, 10% liberal arts, 5% music & arts, and 28% undeclared. By GPA, 46.0% were 3.50 or higher, 35.9% between 3.00 and 3.49, 13.3% between 2.50 and 2.99, and 4.8% below 2.50. Students were given definitions of receptive, creative, and critical learning and then asked to indicate whether their critical and their creative abilities were higher than, lower than, or the same as their receptive learning abilities.

Results

Study One: Qualitative results

Using an open unstructured interview and coding process, interviewees' comments were categorized into five common themes. Most interviewees described themselves as receptive learners and as trying not to have different opinions from their instructors,

which was partly due to lack of opportunities to demonstrate their critical and creative abilities and assessment practices that measure receptive learning. Furthermore, some perceived that critical and creative learning are only possible after mastering receptive learning and that being critical and creative is offensive or weird.

Generally receptive to instructor's opinions

Most interviewees (i.e., 41 out of 46) described themselves as generally having a receptive approach to their learning rather than critical or creative approaches. Some participants reported that they specifically consider what their professor wants and conform to those requirements. Their ultimate goal seems to be to master the contents covered by the professor during class, as demonstrated in interview quotes (1) and (2).

- (1) I think there are the answers the professor expects. We need to catch those things ... I believe that complete understanding of the lecture is the best way to get a good grade. (Participant #29)
- (2) There is stuff that professors want us to write. Professors usually tell us how to answer the exam questions. I strictly follow his instructions. I add my own opinion only when my professor asks me to do so. (Participant #30)

Many of the participants seem to avoid over-stepping their professors; rather they try to 'tune' their own opinion to align with the professors' even if the two opinions conflict. They view their professors' perspectives as more valid and right, as identified in (3), (4), and (5) below.

- (3) I often ask my professor where I was logically wrong and try to tune my opinion to his ... (Participant #36)
- (4) I'd better learn my professor's opinion first and then expand my view by gradually adding my own opinion. Even if I feel that his opinion is different from mine, there should be a sound reason. I keep thinking about the reason. (Participant #34)
- (5) My professor is much older than me and has much more experiences. It is therefore natural that his opinion is more valid than mine. (Participant #34)

As a result of getting used to receiving information from professors, a participant reported feeling uncomfortable creating new things, as noted in (6):

- (6) I am not very comfortable creating a whole new thing because mainly I have only been exposed to receptive learning until now. (Participant #22)

Hierarchical structure of receptive, critical, and creative learning

The interviewees indicate that students perceive the three types of knowledge as hierarchically related. The lower level is receptive learning, which serves as the basis of critical and creative abilities. Students believe that without receptive knowledge, it is difficult to have critical and creative learning. Some participants compared receptive learning to ingredients in cooking or to muscles for exercise, as shown in (7) and (8).

- (7) For cooking, we need ingredients first. Likewise I try to make the professor's opinions as my ingredients first instead of ruthlessly criticizing it or developing my own thoughts. (Participant #39)
- (8) If I take exercising as an example, 'receptive' will be like muscle exercise to maintain physical fitness just like a coach told the soccer players to train ... then 'creative' is like strategic set play where a star player scores a goal. (Participant #19)

The participants perceived that high-level critical and creative abilities are not for undergraduates to pursue, as in (9) and (10).

- (9) Creativity should be based on a lot of background knowledge and need to have certain degree of perspective and experience in that field to take one step further ... So I try to build knowledge for now as an undergraduate. I don't think I am in the stage to demonstrate creativity. (Participant #1)
- (10) Creativity comes after receptive learning. If I tell you honestly about my level, I haven't developed any creative parts and I believe when I finish my studying then it (creativity) will come like upper stairs ... (Participant #19)

Beliefs about receptive, critical, and creative learning

High-achievers also seem to believe that being acquiescent and non-critical are positive characteristics, as in (11). Compared to receptive attitudes, students seem to have negative preconceptions of being critical and creative, with critical perceived as abrasive or offensive as in (12), and creative as strange or weird as in (13).

- (11) I am not very critical. In fact, if I keep listening to them, there are usually valid reasons for confrontation. So I listen first and try to accept their positions. (Participant #39)
- (12) I don't really like being offensive. So I don't really like debating. (Participant #30)
- (13) I regret to hear that I am critical. When I say different opinions, my friends say it's too abrasive and pungent. About creative parts ... hmm ... I am told that I think in unique ways. It seems to mean that I am weird. (Participant #32)

Few opportunities to be critical/creative learners

Although there are a few variations in the disciplines of business and arts, the participants commonly reported that they are neither critical nor creative because they simply do not get enough opportunities, even if they are somewhat interested in critical and creative learning as stated in (14) and (15).

- (14) There are not many opportunities ... I like creating things. I am very into arts and paintings but after I got into college, I don't get enough opportunities to train myself in those areas... maybe it's just due to the characteristics of my classes. But most of the classes are to receive knowledge that a professor delivers. (Participant #6)

- (15) About critical thinking, I don't think I have enough training in that area. Maybe there weren't enough opportunities for that but I am sure everyone has that feature in them. It's in me but not enough opportunities that I can practice it. (Participant #10)

Receptive-oriented assessment practices

A majority of the participants reported that current assessment practices evaluate their receptive learning, not their critical and creative learning as in (16) and (17).

- (16) I think receptiveness was the big part (in getting good grade). I'm sorry to my professor for saying this but I think that is what the professor wants. (Participant #23)
- (17) I think the test for our major is measuring our receptive competency because there are rarely any time for us to design experiments. (Participant #8)

The participants typically prioritize, and are concerned about, how to get high grades rather than developing their own views. Even when they believe their point of view is more valid than the professors', they hide their own opinion as in (18) and (19), but think this is a painful process.

- (18) I think for the grade first ... but I do not change my opinion. If I have a chance to talk about the issue, I would discuss it with my professor and say that I have a different opinion. However, when it matters to answering the exam, it is a painful process to write about other's opinion, not about mine. (Participant #40)
- (19) Even after my professor explained my logical error, I could feel that my opinion is more valid. But ... in the mid-term or final exams, I answer as if I agree with my professor. This is my solution ... (Participant #36)

Students even think that creative answers could have no effect or even lower their grades. The following utterances clearly show this perception:

- (20) When I was a freshman or sophomore, I was totally wrong in thinking that I need to be innovative and creative ... But then the resulting score was horrible. Later, I have changed my mind to concentrate on only the materials covered in class. (Participant #3)
- (21) I think creativity has no positive effects on the grade. So I don't try to make an effort to be creative since creativity is not correlated to high grade. (Participant #33)
- (22) Sometimes professors give us tasks to instigate our creative aspects but in the test the score get deducted when it is written too creatively ... (Participant #8)

Study One: Quantitative results

We used the qualitative results as the basis for a broader survey, in which we asked a sample of the full university student population to report their relative perceptions of their critical, creative, and receptive learning abilities. [Figure 1](#) shows that the majority

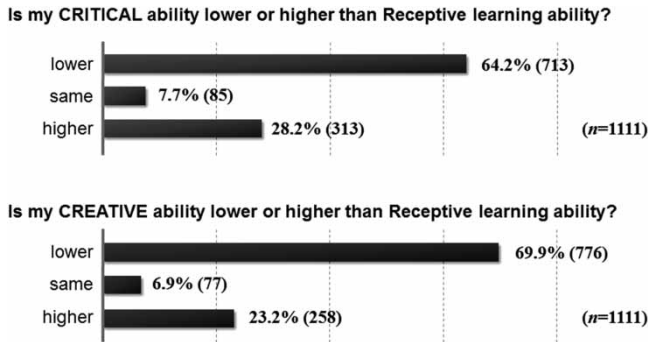


Figure 1. Korean students' relative perceptions of critical, creative, and receptive abilities.

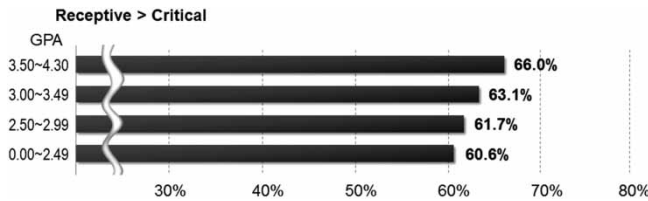


Figure 2. Percentage of Korean students by GPA group reporting higher receptive than *critical* learning abilities.

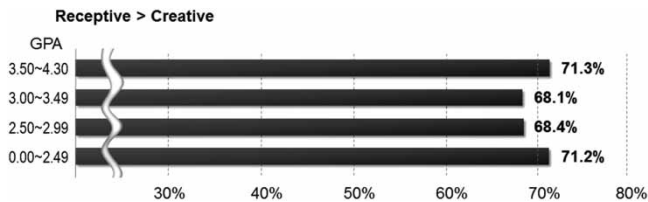


Figure 3. Percentage of Korean students by GPA group reporting higher receptive than *creative* learning abilities.

of students perceived their critical and creative abilities as lower than their receptive learning ability.

In contrast to the expectation that higher achievers would show higher critical and creative learning abilities, Figures 2 and 3 suggest that the higher GPA students are actually more likely to perceive their receptive abilities as higher than their critical and creative abilities compared with lower achievers, although these group differences were not statistically significant.

Study Two: Comparing Korean and US student perceptions of receptive, critical, and creative abilities

In order to explore institutional and cultural influences on students' perception of their critical and creative learning abilities, we compared a highly ranked US university to

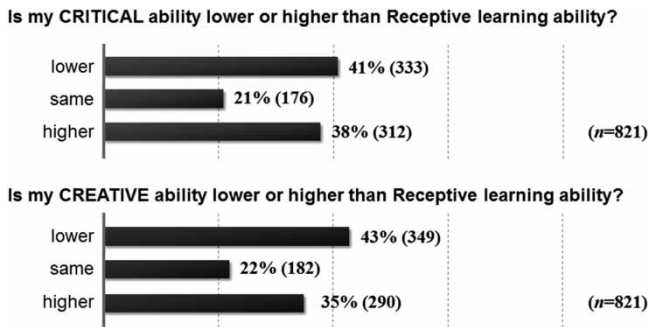


Figure 4. US students' relative perceptions of critical, creative, and receptive abilities.

Table 1. Proportion of receptive versus critical versus creative across populations.

	Receptive versus critical (%)			Receptive versus creative (%)		
	Critical	Receptive	Same	Creative	Receptive	Same
Korean univ. ($n = 1111$)	28.2	64.2	7.7	23.2	69.8	6.9
US univ. ($n = 821$)	38.0	40.6	21.4	35.3	42.5	22.2
US Asian international ($n = 55$)	22.2	42.2	35.6	37.8	46.7	15.6

the Korean case. As seen in Figure 4 and Table 1, compared to the Korean university, the US university had a significantly higher proportion of students who rated their critical abilities as higher than their receptive abilities ($\chi^2 = 129.16, p < .001$) and their creative abilities as higher than receptive abilities ($\chi^2 = 166.73, p < .001$). Within the US university, Figures 5 and 6 demonstrate that high-achievers are more likely than lower achievers to rate their receptive learning abilities as greater than their critical and creative learning abilities, similar to the Korean sample. A significantly higher proportion of US students in lower GPA groups, compared to the highest GPA category, rated creative ability as higher than receptive ($\chi^2 = 22.83, p < .001$).

Another interesting result is a comparison of Asian international students at the US university with students in the Korean and USA (without Asian international) samples. Asian international students at the US university were more receptive and less critical than US (national) students ($\chi^2 = 6.72, p < .05$) and less receptive than Korean students ($\chi^2 = 42.39, p < .001$). As for creative learning ability, US Asian international students perceived that they are less receptive and more creative than Korean students

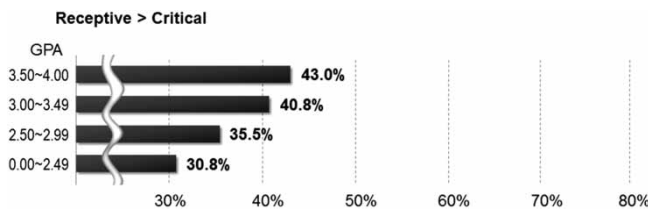


Figure 5. Percentage of US students by GPA group reporting higher receptive than *critical* learning abilities.

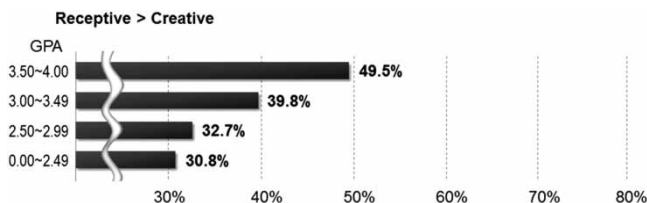


Figure 6. Percentage of US students by GPA group reporting higher receptive than *creative* learning abilities.

($\chi^2 = 11.65, p < .01$). That is, US Asian international students' ratings of their abilities seemed to be located between US and Korean student perceptions.

Korean and US differences by year, gender, and major

Table 2 shows students' relative perceptions of their learning abilities across the school years. Among sophomores, both US and Korean students reported themselves as higher receptive learners, although Korean students did to a greater extent, and the general pattern is an increase across grade levels in the proportion of students who report being more critical than receptive. The difference between grades is significant at the US university ($\chi^2 = 13.23, p < .05$), but not at the Korean university. Upon graduation (senior year), the reported proportion of critical versus receptive learners at the US university is reversed. Figures 7 and 8 demonstrate students' perceptions of their learning abilities across years. US Asian international students showed no significant difference by year, perhaps due to the small sample size.

Given the potential for variation within each population, we also examined within-university differences by gender, race/ethnicity, and major. There is no significant difference for either self-reported creative or critical abilities by US students' race/ethnicity, gender, and major. For Korean students, females were more likely to report higher receptive than critical ($\chi^2 = 45.365, p < .001$) and creative abilities ($\chi^2 = 28.789, p < .001$) compared to males, and engineering students reported more critical abilities than students from other disciplines ($\chi^2 = 21.307, p < .05$) and art and music students reported more creative abilities than other college students ($\chi^2 = 18.269, p < .05$). However, all Korean groups, regardless of gender or major, still rated themselves more receptive than critical or creative.

Table 2. Proportion of receptive versus critical versus creative across grade levels.

	Receptive versus critical (%)			Receptive versus creative (%)		
	Critical	Receptive	Same	Creative	Receptive	Same
US sophomore	33.3	48.6	18.1	33.7	45.4	20.9
US junior	37.7	37.7	24.6	34.6	42.3	23.1
US senior	43.0	35.1	21.9	37.6	39.8	22.6
<i>US x grade level</i>	$\chi^2 = 13.23, p < .05$			$\chi^2 = 2.03, n.s.$		
Korean sophomore	24.9	67.5	7.6	18.5	72.7	8.8
Korean junior	27.3	63.0	9.7	23.3	70.0	6.6
Korean senior	32.3	57.3	10.5	26.4	67.3	6.4
<i>Korean x grade level</i>	$\chi^2 = 5.37, n.s.$			$\chi^2 = 5.02, n.s.$		

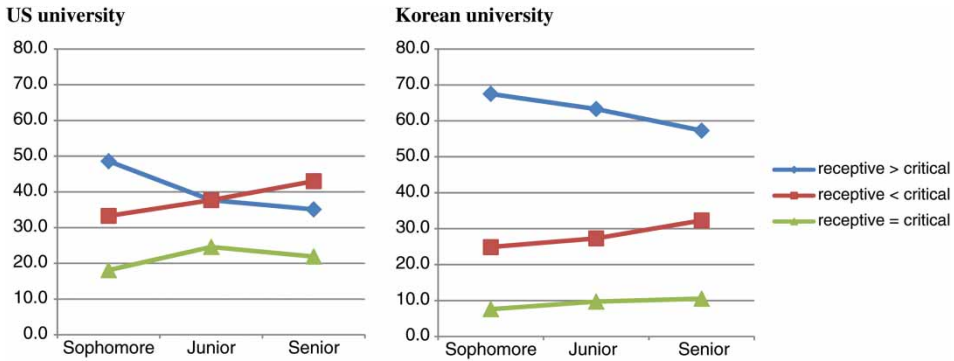


Figure 7. Student perceptions of critical learning abilities across grade level at the US and Korean universities.

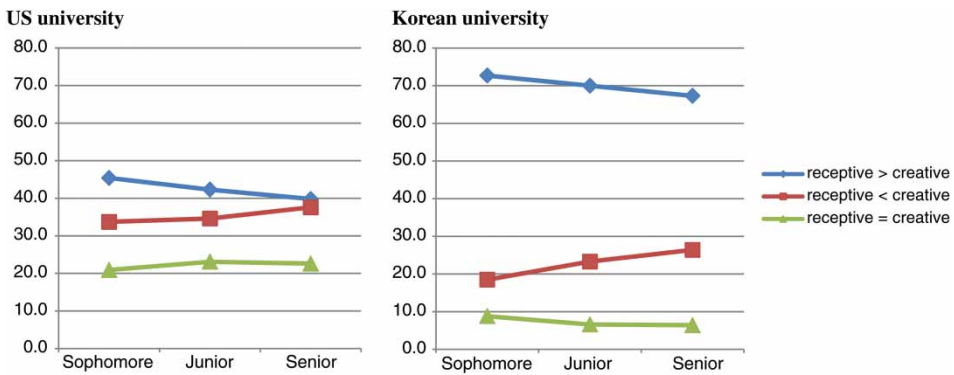


Figure 8. Student perceptions of creative learning abilities across grade level at the US and Korean universities.

Discussion

This paper explores whether two universities, one in Korea and one in the USA, foster critical and creative learners as declared in their education goals. Study One found that college students at the Korean university perceive that their critical and creative abilities are lower than their receptive learning ability, and that higher achievers were not more critical or creative than lower achievers. Study Two found that students at the Korean university were more likely than US students to perceive their receptive learning ability as higher, and they did not show significant differences across school years while the US university students increased in their perceptions of critical learning abilities across school years. Asian international students at the US university showed a pattern of beliefs that falls between Korean and US students. In this section, we discuss possible explanations and interpretations from the perspective of culture, epistemology, and institutional instructional practices.

The influence of culture on the perception of receptive, critical, and creative learning

Despite the criticism of stereotypical arguments about Asian students' learning approaches (Becher & Trowler, 2001; Biggs, 1992; Cortazzi & Jin, 1996; Hargreaves, 2009; Holliday et al., 2004; Kirkpatrick, 2002; Palfreyman & McBride, 2007; Singh & Doherty, 2004; Trans, 2013), the results of this study seem to corroborate the characterization of Eastern approaches to learning. A cautious interpretation, however, should be taken since these students' perceptions may be more reflective of cultural norms rather than their actual abilities. For Asian students, learning is a disciplined activity not only for intellectual development, but also for moral and social development (Li, 2003). Critiquing teachers is considered to be morally immature, and obedience and humility are considered desirable. This tendency may be based on respect for the authority of teachers' knowledge that Asian culture has encouraged (Choi & Nieminen, 2013; Phuong-Mai, Terlouw, & Pilot, 2005). Such preconceptions contrast with Western learners' view that learning is an inquiry-oriented and communication-focused activity, involving 'challenging assumptions' and communication that involves 'debate and critique' (Li, 2003, p. 263). This may explain why Korean students hesitate to outwardly challenge their teachers (Lee & Carrasquillo, 2006), which in practice may obstruct developing critical and creative thinking (Lun et al., 2010; Niu & Sternberg, 2003), despite still having a high potential for such abilities.

More fundamentally, Asian students may have distinct epistemological beliefs, which play an important role in their learning beliefs, strategies, and outcomes (Hofer, 2008; Tsai, 2008). Li (2003) indicated that the meaning of 'learning' is different between Westerners and Asians, with Westerners viewing learning as something people do in order to understand and master the external world, and Asians viewing learning as a process undertaken to cultivate virtues inside the self. This epistemology might lead students to accept teachers' words as 'truth', as indicated in Lee and Lee (2012) where one critical strategy for high achievement at a Korean university was writing down, verbatim, everything an instructor said during class. The Korean students in this study place a high value on receptive learning, and believe that it is the basis of critical and creative learning which are impossible to reach without mastering imparted knowledge. The positive attitude toward receiving knowledge is also contrasted with the participants' negative preconception of being critical and creative as 'offensive' and 'weird'. In a similar fashion, Chinese students consider the ability to perfectly recall what was said as extraordinary, as expressed with terms such as 'living dictionary' or 'prose flows from the mouth' (Li, 2003, p. 260). This perception of learning might form a societal value for a certain type of academic excellence, as evidenced by the format of college entrance examinations in many Asian countries, which may explain why more perceived receptive learners are admitted to the Korean university than to the US one, inferred from Study Two results that the Korean university had more students reporting higher receptive abilities in the earlier grade level.

The impact of university education systems on receptive, critical, and creative learning

Despite the declared missions of HE institutions to promote critical and creative learning, this study found that across both the South Korean and US universities, students with higher achievement did not report greater critical and creative learning abilities.

Students' epistemological beliefs are, however, influenced not only by overall social culture but also by school culture (Hofer, 2008). The Korean interviewees reported that they are given few opportunities to demonstrate their critical and creative abilities and they are assessed by their receptive ability, which might reinforce the positive attitude toward receptive learning. Some studies indicate that there is less emphasis on creative and critical teaching in some Asian classrooms compared to Western classrooms (Lun et al., 2010; Niu and Sternberg, 2003), and numerous others indicate that critical and creative thinking are more highly influenced by educational environments than by individual factors (Amabile, 1996; Tsai, 2008). The upside of this is that school culture is more readily changeable and thus can be shaped by the institutional context (Hofer, 2008). That is, epistemological beliefs about critical and creative thinking may be grounded within cultural values, and then are either reinforced or changed through institutional factors.

Study Two demonstrated that the US had a lower proportion of receptive learners than the Korean university, although the US university also had higher levels of receptive learners in the early years. This result is consistent across gender, race/ethnicity, and major in the US sample. The Korean population also reported higher receptive than critical or creative learners regardless of majors, gender, and grade level. This institutional difference indicates that the institutional settings can have a meaningful impact on perceptions of learning. In addition, US students' perceptions of their relative learning abilities across school years increased significantly as years in college increased. Thus, among senior US university students, the number of critical learners surpassed receptive learners. The Korean university showed no significant changes across years in school, but Asian international students at the US university were located in between US and Korean students in reporting their learning abilities, perhaps since they might have both culturally and institutionally influenced epistemological beliefs and study habits.

These results suggest that, although many universities declare fostering critical and creative learners as part of their educational mission, universities at present may not properly foster these abilities as part of their instructional programs. Korean high-achievers reported they had to be receptive learners to receive 'A's since their classroom assessments required receptive abilities more than critical and creative abilities. These results raise the question: what is taught and assessed in university education? The issue of HE institutional accountability for students' learning outcomes has been raised over the last decade; for example, the Collegiate Learning Assessment (CLA) project compared faculty and administrators within and between institutions to improve the quality of teaching and learning (see Arum et al, 2008; Klein et al., 2007; Shavelson, 2009). One big question posed by the CLA was what components of learning outcomes should be the focus in HE. Instead of nurturing critical and creative learners, universities may be inadvertently cultivating receptive abilities. Instructors may be unaware that they have only been giving 'A's to students who recall knowledge exactly as taught in the classroom, and thus they unwittingly foster receptive learners. Shin, Jung, and Shin (2008) also indicated college academic achievement is more influenced by process factors (experiences and opportunities during HE) than by input factors (pre-university education/background). Considering that students ultimately study for what will be assessed, educators and institutional leaders should consider what *should be* assessed in HE compared to what *is* currently assessed in college courses.

Conclusion

This paper suggests that our higher educational institutions may be better at developing compliant transmitters for knowledge maintenance, rather than pioneering leaders who are transformers for innovation. The findings of the paper have practical implications and suggestions for further research.

First, universities should endeavor to investigate whether students' learning outcomes are aligned with their educational missions. Examining how high-achievers at a university approach their education should be a good indication of the 'true' educational approach of the institution. Universities should also conduct regular student evaluations of what is taught and assessed, and share results to university departments and faculty so that educational improvement can be diffused from courses to the curriculum and finally to the institutional level. University education systems can effectively change students' learning approaches through evaluating and possibly adjusting their assessment criteria, academic atmosphere, promoting liberal relationships between instructors and students, heeding course evaluations, and implementing strategic policies for innovative teaching.

Second, this paper does not intend to denigrate receptive learning. As indicated by Lun and colleagues (2010), Asians often outperform their Western counterparts on international achievement comparisons, perhaps due in part to culturally influenced learning strategies and study habits. However, if the goal of a university is creativity and critical thinking, then universities need to be aware that certain educational practices, which might be culturally influenced, may not align with university goals, and that institutional efforts can provide recourse. HE institutions, therefore, should reflect upon whether their instruction aligns with their educational goals. The finding that Asian international students at the US university were located in between two cultures implies that cultural differences may fall along a continuum; therefore, it would be important to replicate the study across multiple cultures and to trace the process of transition from one culture to another, especially in learning behaviors and strategies.

Third, various methodological approaches to investigating learning outcomes would contribute to understanding what is taught and assessed in HE. Standardized instruments may be used to measure students' receptive, critical and creative thinking abilities. Furthermore, the cross-sectional data could be supplemented with longitudinal research designs to determine how students' learning abilities develop across their time in HE. In addition to the two university cases in this paper, similar studies in other institutional contexts such as vocational colleges and in other cultural contexts such as non-CHC-influenced Asian countries would be meaningful extensions of this work. Future research may also examine how perceptions of critical/creative learning are related to other psychological or cultural variables such as self-esteem or disciplinary values about what it means to be a 'good learner'. Finally, this paper explained differences in students' critical and creative learning using a macro approach of institutional and cultural factors. Future studies should investigate micro-factors such as teaching methods or learning tasks in order to offer fine-grained practical implications for instructional design to foster critical and creative learners.

Acknowledgements

We would like to thank Professor Stephanie Teasley and the USE Lab at the University of Michigan for their valuable feedback and support.

References

- Amabile, T. (1996). *Creativity in context*. Boulder, CO: Westview Press.
- Arum, R., Roksa, J., & Velez, M. (2008). *Learning to reason and communicate in college: Initial report of findings from the CLA longitudinal study*. New York, NY: The Social Science Research Council.
- Becher, T., & Trowler, P.R. (2001). *Academic tribes and territories*. Philadelphia, PA: Open University Press.
- Biggs, J. (1989). Approaches to the enhancement of tertiary teaching. *Higher Education Research & Development*, 8(1), 7–25.
- Biggs, J. (1992). *Why and how do Hong Kong students learn? Using the learning and study process questionnaires* (Education Paper No. 14). Hong Kong: Faculty of Education, the University of Hong Kong.
- Bok, D. (2006). *Our underachieving colleges: A candid look at how much students learn and why they should be learning more*. Princeton, NJ: Princeton University Press.
- Chen, C., Lee, S.-Y., & Stevenson, H. (1995). Response style and cross-cultural comparisons of rating scales among East Asian and North American Students. *Psychological Science*, 6(3), 170–175.
- Choi, J., Chae, J., Seo, Y., & Min, H. (2011). *Global trend analysis on university educational capacity enhancement policy* (Research report 2011-14). Seoul: Korean Educational Development Institute.
- Choi, S., & Nieminen, T. (2013). Factors influencing the higher education of international students from Confucian East Asia. *Higher Education Research & Development*, 32(2), 161–173.
- Cortazzi, M., & Jin, L. (1996). Cultures of learning: Language classrooms in China. In H. Coleman (Ed.), *Society and the language classroom* (pp. 169–206). Cambridge: Cambridge University Press.
- Creswell, J. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Daniel, J. (2012). Making sense of MOOCs: Musings in a maze of myth, paradox and possibility. *Journal of Interactive Media in Education*. Retrieved February 27, 2014, from <http://www-jime.open.ac.uk/article/2012-18/pdf>
- Hargreaves, J. (2009). Voices from the past: Professional discourse and reflective practice. In H. Bradbury, N. Frost, S. Kilminster, & M. Zukas (Eds.), *Beyond reflective practice: New approaches to professional lifelong learning* (pp. 83–95). New York, NY: Routledge.
- Harzing, A., Brown, M., Köster, K., & Zhao, S. (2012). Response style differences in cross-national research. Dispositional and situational determinants. *Management International Review*, 52(3), 341–363.
- Holliday, A.R., Hyde, M., & Kullman, J. (2004). *Intercultural communication: An advanced resource book*. London: Routledge.
- Hofer, B. (2008). Personal epistemology and culture. In M.S. Khine (Ed.), *Knowing, knowledge, and beliefs: Epistemological studies across diverse cultures* (pp. 3–22). Dordrecht, Netherlands: Springer.
- James, R., McInnis, C., & Devin, M. (2012). *Assessing learning in Australian universities*. VIC, Australia: The University of Melbourne.
- Kirkpatrick, A. (2002). ASEAN and Asian culture and models: Implications for the ELT curriculum and for teacher selection. In A. Kirkpatrick (Ed.), *Englishes in Asia* (pp. 213–224). Melbourne: Language Australia.
- Klein, S., Benjamin, R., Shavelson, R., & Bolus, R. (2007). The collegiate learning assessment: Facts and fantasies. *Evaluation Review*, 31(5), 415–439.
- Laurillard, D. (2002). *Rethinking university teaching* (2nd ed.). London: Routledge Falmer.
- Lee, H.-J., & Lee, J. (2012). Who gets the best grades at top universities? An exploratory analysis of institution-wide interviews with the highest achievers at a top Korean university. *Asia-Pacific Education Review*, 13(4), 665–676.
- Lee, K., & Carrasquillo, A. (2006). Korean college students in United States: Perceptions of professors and students. *College Student Journal*, 40(2), 442–457.
- Li, J. (2003). US and Chinese cultural beliefs about learning. *Journal of Educational Psychology*, 95(2), 258–267.

- Lun, V., Fischer, R., & Ward, C. (2010). Exploring cultural differences in critical thinking: Is it about my thinking style or the language I speak? *Learning and Individual Differences*, 20(6), 604–616.
- McNaught, C. (2009, July 10–11). *More than a paper trail: Developing quality assurance processes that enhance teaching and support student learning*. Keynote address at the International Symposium on Development of Teachers' Potentialities, Capital University of Economics and Business, Beijing, China.
- McNaught, C., & Young, K. (2011, June 29–July 1). Ensuring quality in undergraduate curriculum reform: Experience in Hong Kong. In *Demonstrating quality: Proceedings of the Australian Quality Forum, Melbourne, Australia* (pp. 105–112). Melbourne: Australian Universities Quality Agency.
- Nisbett, R. (2003). *The geography of thought: How Asians and Westerners think differently ... and why*. New York, NY: Free Press.
- Niu, W., & Sternberg, R. (2003). Societal and school influences on student creativity: The case of China. *Psychology in the Schools*, 40(1), 103–114.
- Palfreyman, D., & McBride, D. (Eds.). (2007). *Learning and teaching across cultures in higher education*. New York: Palgrave Macmillan.
- Phuong-Mai, N., Terlouw, C., & Pilot, A. (2005). Cooperative learning versus Confucian heritage culture's collectivism: Confrontation to reveal some cultural conflicts and mismatch. *Asia Europe Journal*, 3(3), 403–419.
- Runco, M. (2004). Personal creativity and culture. In S. Lau, A.A. Hui, & G.Y. Ng (Eds.), *Creativity: When east meets west* (pp. 9–21). River Edge, NJ: World Scientific.
- Shavelson, R. (2009). *Measuring college learning responsibly: Accountability in a new era*. Stanford, CA: Stanford University Press.
- Shin, J., Jung, J., & Shin, T. (2008). Causal relations between college student academic achievement and its factors. *The Journal of Educational Administration*, 26(1), 287–313.
- Singh, P., & Doherty, C. (2004). Global cultural flows and pedagogic dilemmas: Teaching in the global university 'Contact Zone'. *TESOL Quarterly*, 38(1), 9–42.
- Spradly, J. (1980). *The ethnographic interview*. Ft. Worth, TX: Harcourt Brace Jovanovich.
- Stassen, M., Herrington, A., & Henderson, L. (2011). Defining critical thinking in higher education: Determining assessment fit. *To Improve the Academy: Resources for Faculty, Instructional, and Organizational Development*, 30, 126–141.
- Sternberg, R. (1999). *Handbook of creativity*. New York, NY: Cambridge University Press.
- Trans, T.T. (2013). Is the learning approach of students from the Confucian heritage culture problematic? *Educational Research for Policy and Practice*, 12(1), 57–65.
- Tsai, C. (2008). The use of Internet-based instruction for the development of epistemological beliefs: A case study in Taiwan. In M.S. Khine (Ed.), *Knowing, knowledge, and beliefs: Epistemological studies across diverse cultures* (pp. 273–286). Australia: Springer.
- Yammarino, F., & Atwater, L. (2006). Understanding self-perception accuracy: Implications for human resource management. *Human Resource Management*, 32(2–3), 231–247.