Gender and Nationality Differences in Approaches to Studying and Learning Styles

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Abstract:

Purpose: Differences in gender learning approaches have been discussed since the mid-1960s but mainly focused on Western countries’ college students (Severiens & ten Dam, 1994). The current study investigated gender differences in student's conceptions of learning approaches to studying and learning preferences of Chinese students living in two countries in an attempt to know their similarities and dissimilarities.

Methodology: The current study used a quasi-experimental quantitative research to examine 62 American-born Chinese (ABC) and 79 Taiwanese college students, the total number of participants in the analysis was 140 due to one participant in the America failed to report gender. For ABCs, 14 participants were male, and 47 were females. For Taiwanese, 22 participants were male, and 57 were females by using the Approaches to Studying Inventory to compare gender differences by using the Approaches and Study Skills Inventory for Students (ASSIST).

Results: Two-way analysis of variance (ANOVA) was used to examine the gender and nationality difference in each dependent variable, and two-way multivariate analysis of variance (MANOVA) was used to derive the results of individual items for each variable. Data analysis results revealed: (a) females scored significantly higher in reproducing knowledge (surface) and transforming knowledge (deep) on conceptions of learning than males did; however, there was no statistically significant difference between males and females for nationality. (b) the gender groups were conceptually different in learning. Females were more likely to believe that knowledge was for practical usage than males did. However, they also believed that knowledge could transform one's life into a more meaningful way more so than males did. (c) There were no statistically significant differences in the deep, strategic, and surface approaches for gender or nationality, but several individual items showed statistically significant differences for nationality. In addition, there were significant differences in gender and nationality in preferences for teaching methods. Females preferred more informative teaching methods than males did. For nationality, ABC students preferred more teaching methods by using transmitting information than Taiwanese students.

Implications: The implication of the findings is gender’s learning concepts, preferences, and approaches depend on their natural learning context and the perceptions of their upspring. Longitudinal studies in various generations of American-born Chinese may benefit the further understanding of their learning and social context influences.

Keywords: approaches to learning, gender, American-born Chinese college students, Taiwanese college students, social context, deep, surface learning, ASI

Introduction

How individuals process information is related to their backgrounds and upbringings, in which they formed conceptions which intertwined with their learning environment to develop preferred ways to learn. Studies showed that students develop their learning strategies through the interaction of specific learning environments with their personalities and preferences. Galotti, Clinchy, Ainsworth, Lavin, and Mansfield (1999) examined college students regarding separate knowing (i.e., critical, detached knowledge) and connected knowing (i.e., empathic, perspective-taking knowledge) in epistemological stances. Results showed that women demonstrated a higher rating on connected knowledge than men did. Galotti et al. (1999) concluded that men are more likely to believe “to know” means to understand a more objective, distant truth while women believe “to know” means to take on other people’s perceptions first. Schommer-Aikins and Hutter (2002) also produced similar results in their
study. They explored the relationship between individuals’ epistemological beliefs (i.e., about the nature of knowledge and learning) and their thinking about controversial everyday issues. The results showed, “women were more likely to display higher order thinking by having a stronger propensity to embrace the complexity of issues and to consider multiple perspectives” (p. 17).

Hogan (1978) conducted a study in gender stereotypes and found that (a) females were more likely to underestimate their IQ scores, (b) females attributed higher IQ scores to others more than men did, and (c) both males and females attributed higher intelligence scores to their fathers than to their mothers. Hogan obtained the same results 10 years later, investigating university students in the United Kingdom (1988). Hamid and Lok (1995) used Hogan’s methods to investigate college students in Hong Kong. Their results were the same as Hogan. Although the common belief that men are more intelligent than women is pervasive (Kimball, 1994; Lynn & Hyde, 1989; Lummis & Stevenson, 1990), many studies did not find significant gender differences in intelligence.

Gender differences in approaches to studying are typically slight (Richardson, 1993; Wilson, Smart, & Watson, 1996). Previous studies which investigated students’ learning approaches and preferences were mostly comparing Confucius Heritage Chinese (CHC) students with Western students. Rarely did they compare students with the same cultural heritage who live in different countries. Also, studies in students’ learning approaches rarely included the conceptions and the preference of teaching methods. The current study was designed to differentiate the uniqueness of American-Born Chinese (ABCs)’ learning conceptions, approaches, and preferences for teaching methods from Taiwanese students in gender. The research question of the current study is: Are there statistically significant differences in the three dependent variables (i.e., learning conceptions, approaches, and preferences) based on gender? The independent variables were gender and country of residence and the dependent variables were learning conceptions, approaches, and preferences.

**Literature Review**

Studies used various definitions and concepts of learning to investigate the relationship between gender and student learning approaches (Richardson & King, 1991; Severiens & ten Dam, 1998, 1994). The objective was to determine if the learning orientations of males and females from various backgrounds and areas might have influenced their ways of learning.

Watkins (1982) administered the ASI survey to compare the differences associated with age, gender, and major at a campus-based Australian university (Watkins & Hattie, 1985). The ASI was used to compare gender differences at campus-based universities in the United States (Miller, Finley, & McKinley, 1990), South Africa (Meyer, Dunne, & Richardson, 1994), and the United Kingdom (Entwistle & Tait, 1995).

Richardson (1993) investigated possible gender variations of college students in the United Kingdom, but “no consistent evidence of significant difference between men and women on individual items, subscales, or learning orientations was found” (p. 3). Gledhill and van der Merwe (1989) used the ASI to investigate medical students in Lancaster, England. The results showed several differences on subscales. Female students scored lower on extrinsic motivation than male students did, indicating they were less concerned with the status and rewards offered by a medical education than their male counterparts were. Females also scored lower on operation learning, which is an emphasis on facts and logical analysis, but scored higher on improvidence, which is overcautious reliance on details. The results indicated that females were more likely to concentrate on displaying an overcautious reliance on details than males were, whereas males were more likely to concentrate on facts and logical analysis than females were. Moreover, male students scored higher on negative attitudes to study than female students did, which implies they had a lower degree of interest and application.

Severiens and ten Dam (1998) assessed 22 research articles that used Entwistle’s Multilevel meta-analysis to analyze each 45 of the 16 subscales of ASI to investigate gender difference in learning orientations in various higher educational settings. The results showed that women scored higher in the surface approach whereas men scored higher in the deep approach. Women also scored higher in fear of failure, negative attitude to studying, and extrinsic motivation than men did. Results showed that women scored higher on the reproduction orientation while men scored higher on the non-academic orientation. Gender differences were also found on 11 of the 16 subscales. Both men and women have similar scores on the meaning orientation, and there was no difference in achieving orientation.
Duff (2002) compared 12 gender-related studies that used ASI from 1982 to 1999. Only three studies (Duff, 1997; Sadler-Smith, 1996; Sadler-Smith & Tsang, 1998) found that males scored higher on the deep approach; whereas, females scored higher on the surface approach. However, four replicated gender differences were found at the ASI’s subscale level:

1. females scored higher than males did on fear of failure (Clarke, 1986; Miller, Finley, & McKinley, 1990; Richardson, 1993; Watkins, 1982; Watkins & Hattie, 1985);
2. females scored higher than males did on relating ideas (Miller, Finley, & McKinley, 1990; Watkins & Hattie, 1985);
3. females scored higher than males did on improvidence (Miller, Finley, & McKinley, 1990; Watkins, 1982; and Rogers and Hallam, 2006); and
4. males scored higher than females did on extrinsic motivation (Miller, Finley, & McKinley, 1990; Clarke, 1986 as cited in Duff, 2002, p. 998).

Rogers and Hallam (2006) explored gender differences among high-achieving students who were studying for their General Certificate of Secondary Education. Results showed that females scored lower overall in the survey, which indicated that they had less effective approaches to studying for the General Certificate of Secondary Education. Males scored higher in strategic approaches, whereas females exhibited more anxiety about the examination and adopted the surface approach to deal with it.

Senemoglu (2011) used the ASSIST to compare Turkish and American students in colleges of education regarding their approaches. It was found that both populations preferred the deep and strategic approaches and that over the year of the study, they increased their use of the deep approach and the strategic approach. She also found that although there was no significant difference between male and female students’ learning approaches, male students tended to use the deep approach while female students adopted the surface and strategic approaches more. The findings were similar to those of Severiens and ten Dam’s (1998) research.

Kusurkar, Croiset, and ten Cate (2013) investigated gender differences in motivation as well as their perceived autonomy and competence among medical students. The result showed “no difference in perceived autonomy but males showed higher self-perception of competence than females even if their performance was lower than or equal to females” (p. 174).

Richardson (2013) compared age and gender differences in distance learners. Results found that although deep and strategic approaches increase with age, there is no significant variation in gender. Teixeira, Gomes, and Borges (2013) used the ASSIST to investigate Portuguese students who studying Introductory Accounting. The results showed that female students were more adopting a strategic approach over deep and surface approaches than male students while male students were more adopting both deep and strategic approaches over surface approach than female, which indicated that “gender has an impact on students’ learning and studying behavior”. The authors concluded that gender differences might causes other factors, such as socialization experience, “ethnic or cultural factors or levels of intrinsic motivation and students’ maturity” (p.205).

Although approaches to study had not presented significant differences between males and females in prior studies, there might be some possibilities in Chinese students in different academic contexts.

2. METHODOLOGY

**Instruments. Approaches to Studying Skills Inventory for Student (ASSIST).** The ASSIST was developed by Entwistle and his colleagues (version available at the ETL project website), which comprises 66 items organized into three subsections as well as a self-evaluation item to measure three aspects of student’s learning, including: 1) A six-item measurement of student conceptions of learning intended to obtain an overall view of student thinking of what learning is; 2) A 52-statement survey is designed to identify “the tendencies of students to adopt deep, surface, and strategic approaches to learning and studying (Entwistle et al., 2013, p.3) Each approach consists of four or five subscales, total 13 subscales; and each subscale comprises four items; 3) An eight-item section measures student preferences for different types of teaching, course, exams, and books. Students respond to a five-point Likert-type scale (5 = Agree, 4 = Agree somewhat, 3 = Unsure, 2 = Disagree somewhat, 1 = Disagree).**

**The ASSIST Modifications.** The ASSIST was written in British English, in which some words and spellings “might be unfamiliar or misleading to American students” (Speth, Namuth, & Lee, 2007, p. 112). The current study
changed the word “memorising” to “memorizing,” and “organise” to “organize.” Other words such as “tutor” was changed to “instructor” and “marks” to “grades” to avoid confusion for American students as Speth, Namuth, and Lee (2007) suggested.

**Chinese Mandarin Version Translation.** A Chinese Mandarin version of the ASI was used with the Taiwanese college students. In the first step of the adaptation process, three Chinese-English experts translated the English version of the demographic section and the ASI surveys into Chinese Mandarin. An expert who is highly fluent in both Chinese and English translated the Chinese Mandarin version back into English. Then an expert native-English speaker, who holds a master’s degree in instructional technology, compared the original and translated versions to verify whether they had the same meanings in each question. Based on the suggestions, three Chinese-English experts revised the questions in the Chinese Mandarin version to ensure compatibility.

**Participants.** The current study involved two groups of participants: 73 ABC college students in the United States and 83 Taiwanese college students in Taiwan, a total of 156 participants. After eliminating participants who failed to report items, the data from 62 ABCs, 14 males, 47 females, and 78 Taiwanese students, 22 males, 56 females, were used in the analysis, a total of 140 valid cases. Thus, there were 104 (74.3%) females, 36 (25.7%) males in the current study. ABC students were recruited from a central California university. Taiwanese college students were recruited from a southern Taiwan university. A class of 36 third-year English major students in the English Department in Taiwan participated in the pilot study to investigate the compatibility of the English and Chinese Mandarin versions of the ASSIST. Six English surveys and five Chinese surveys were excluded because of missing data. The majority of the age range was from 18 to 23. For the U.S. participants, the majority of family of origin was from China (N = 42, 87.5%), and they were of the second generation (N = 59, 95.2%).

**Research Design and Procedures.** A quasi-experimental quantitative research design was used to answer the research questions. The English version, including informed consent form, the demographic survey. The English version, including informed consent form, the demographic survey, and the ASI were posted on Google Forms and administered online for the U.S. college students. All responses were automatically recorded and generated on a spreadsheet in the researcher’s Google account. For compatibility data collection, the English version of the ASSIST was administered first, and the Chinese version of the ASSIST was administered two weeks later. During the same time, the survey of the Chinese Mandarin version was printed and administered as a paper and pencil survey for the Taiwanese college students.

3. Results

Compatibility between the English and Chinese Versions of the ASI. Table 1 showed the results of the Cronbach’s alpha coefficient. The English version was .819 and the Chinese version .921. The Cronbach’s alpha coefficients for the two versions can be considered as evidence of high internal consistency.

**Table 1. Reliability for the English and Chinese Mandarin Versions of the ASI**

<table>
<thead>
<tr>
<th>Versions</th>
<th>Cronbach’s Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>0.819</td>
<td>66</td>
</tr>
<tr>
<td>Chinese</td>
<td>0.921</td>
<td>66</td>
</tr>
</tbody>
</table>

The evidence indicated that both the English and the Chinese versions of the ASSIST showed high reliability (i.e., internal consistency), with the Chinese version showing a higher level of reliability than the English version. Thus, the two versions of the ASSIST appeared to be highly compatible.

**Conceptions of learning.** Table 2 showed the results of the effects of gender and nationality on learning conceptions.
Table 2. ANOVA Tests of Between-Subjects Effects for Conceptions of Learning for Gender and Nationalities

<table>
<thead>
<tr>
<th>Approach</th>
<th>Source</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reproducing Knowledge</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>4.87</td>
<td>.029*</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>3.57</td>
<td>.061</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>0.03</td>
<td>.858</td>
</tr>
<tr>
<td>Transforming Knowledge</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>4.06</td>
<td>.046*</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>1.28</td>
<td>.259</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>1.43</td>
<td>.234</td>
</tr>
</tbody>
</table>

* statistically significant

The current study found that females scored significantly higher for reproducing knowledge (surface) and transforming knowledge (deep) in conceptions of learning than males. Females also scored significantly higher for transmitting knowledge (surface) in preferences in teaching methods than males.

The one-way between-groups MANOVA was performed to investigate individual item differences in nationality and gender on conceptions of learning. The results showed that there was a statistically significant difference for gender on CSD (being able to use the new material for yourself), $F(1, 136) = 3.28, p = .031$ but not for nationality. It indicated that females reported they believed that learning was for more pragmatic use than males did.

**Approaches to Studying:** Table 3 showed the results of the effects of gender and nationality data of participants’ surface, strategic, and deep approaches to studying.

Table 3. ANOVA Tests of Between-Subjects Effects for Approaches to Studying for Gender and Nationalities

<table>
<thead>
<tr>
<th>Approach</th>
<th>Source</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>.74</td>
<td>.391</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>.49</td>
<td>.484</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>.05</td>
<td>.827</td>
</tr>
<tr>
<td>Strategic</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>1.00</td>
<td>.319</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>.52</td>
<td>.474</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>.03</td>
<td>.856</td>
</tr>
<tr>
<td>Deep</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>.07</td>
<td>.789</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>.39</td>
<td>.536</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>.01</td>
<td>.945</td>
</tr>
</tbody>
</table>

There were no significant overall differences in approaches to studying regarding deep, strategic, and surface approaches. The results indicated that regardless of their gender and nationality, ABCs and Taiwanese college students reported that there were no differences to their approaches to studying.

Table 4 showed the results of statistically significant differences in the subscale and individual item differences in nationality and gender on approaches and studying skills. These results indicated that males and females had similar learning approaches but different learning approaches between the two countries.

Table 4. MANOVA Tests of Between-Subjects Effects for Individual Items of Approaches to Studying for Gender and Nationalities Learning Approaches

<table>
<thead>
<tr>
<th>Source</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>S08</td>
<td>1</td>
<td>136</td>
<td>13.51</td>
<td>.000</td>
</tr>
<tr>
<td>S19</td>
<td>1</td>
<td>136</td>
<td>5.09</td>
<td>.026</td>
</tr>
<tr>
<td>T01</td>
<td>1</td>
<td>136</td>
<td>5.36</td>
<td>.022</td>
</tr>
<tr>
<td>T10</td>
<td>1</td>
<td>136</td>
<td>5.82</td>
<td>.017</td>
</tr>
</tbody>
</table>
Preferences for teaching methods. Table 5 showed the results of the effects of gender and nationality data of participants’ preferences for teaching methods on transmitting information (surface) and supporting understanding (deep).

**Table 5. ANOVA Tests of Between-Subjects Effects for Preferences for Teaching Methods for Gender and Nationalities**

<table>
<thead>
<tr>
<th>Teaching Preference</th>
<th>Source</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitting Information</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>5.47</td>
<td>.021*</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>18.20</td>
<td>.000*</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>1.70</td>
<td>.194</td>
</tr>
<tr>
<td>Supporting Information</td>
<td>Gender</td>
<td>1</td>
<td>136</td>
<td>.05</td>
<td>.818</td>
</tr>
<tr>
<td></td>
<td>Nationality</td>
<td>1</td>
<td>136</td>
<td>.45</td>
<td>.503</td>
</tr>
<tr>
<td></td>
<td>Gender*Nationality</td>
<td>1</td>
<td>136</td>
<td>1.34</td>
<td>.249</td>
</tr>
</tbody>
</table>

* statistically significant

ABC females reported that they preferred reproducing knowledge (surface) teaching methods more than Taiwanese female college students did. Overall, both male and female ABCs reported that they preferred reproducing knowledge (surface) teaching methods more than both male and female Taiwanese college students. Table 6 showed the results of individual item differences in nationality and gender on preferences for types of teaching. The results showed that there was no statistically significant difference for gender, but several items were statistically significantly difference for nationality. The results indicated that there was no difference in preferences of teaching for gender, but there were differences of preferences of teaching for nationality.

**Table 6. MANOVA Tests of Between-Subjects Effects for Individual Items of Preferences for Teaching Methods for Gender and Nationalities**

<table>
<thead>
<tr>
<th>Item</th>
<th>df1</th>
<th>df2</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSa</td>
<td>1</td>
<td>136</td>
<td>4.14</td>
<td>.044</td>
</tr>
<tr>
<td>PSD</td>
<td>1</td>
<td>136</td>
<td>8.04</td>
<td>.005</td>
</tr>
<tr>
<td>PSe</td>
<td>1</td>
<td>136</td>
<td>22.56</td>
<td>.000</td>
</tr>
<tr>
<td>PSh</td>
<td>1</td>
<td>136</td>
<td>4.84</td>
<td>.029</td>
</tr>
<tr>
<td>PDF</td>
<td>1</td>
<td>136</td>
<td>5.34</td>
<td>.038</td>
</tr>
</tbody>
</table>

For gender and nationality, there were statistically significant differences in both reproducing (surface) and transforming (deep) knowledge for conceptions of learning, which indicated that female college students reported that they were more likely adapting both conceptions of learning. There was no statistically significant difference in the deep, strategic, and surface approaches between genders and nationalities for approaches to studying. There were statistically significant differences for gender and nationalities in preferences for teaching methods. The results indicated that ABC female students reported they preferred transmitting information (surface) teaching methods and overall ABC students in both genders also reported that they preferred the same teaching methods.

**Discussion**

Differences in gender learning approaches have been discussed since the mid-1960s but mainly focused on Western countries' college students (Severiens & ten Dam, 1994). The current study investigated gender differences in student's conceptions of learning approaches to studying and learning preferences of Chinese students living in two countries. The results showed that females scored significantly higher in reproducing
knowledge (surface) and transforming knowledge (deep) on conceptions of learning than males did; however, there was no statistically significant difference between males and females for nationality. The results indicated that the gender groups were conceptually different in learning. Females were more likely to believe that knowledge was for practical usage than males did. However, they also believed that knowledge could transform one’s life into a more meaningful way more so than males did. There were no statistically significant differences in the deep, strategic, and surface approaches for gender or nationality, but several individual items showed statistically significant differences for nationality. In addition, there were significant differences in gender and nationality in preferences for teaching methods. Females preferred more informative teaching methods than males did. For nationality, ABC students preferred more teaching methods by using transmitting information than Taiwanese students.

The current study found that females scored significantly higher for reproducing knowledge (surface) and transforming knowledge (deep) in conceptions of learning than males. Females also scored significantly higher for transmitting knowledge (surface) in preferences in teaching methods than males. However, there were no significant overall differences in approaches to studying regarding deep, strategic, and surface approaches. According to Artelt et al. (2003), males and females were different in certain aspects:

1. females are more likely to control their learning and are generally better at working out what they need to know than males; whereas, males are significantly more likely to use comprehension-oriented strategies than females;
2. females are more interested in reading and asserting more effort and persistence than males; whereas, males express significantly more interest in mathematics than females;
3. females are more likely to enjoy learning co-operatively than males; whereas, males are more likely to be positive about competitive learning situations than females. (p. 52)

The results of the current study coincided with the above statement and were also consistent with the findings of other researchers (Clarke, 1986; Duff, 2002; Miller, Finley & McKinley, 1990; Richardson, 1993; Richardson, 2013; Sadler-Smith & Tsang, 1998; Senemoglu, 2011; Severiens & ten Dam, 1998; Watkins & Hattie, 1985). However, some of the results for the individual items from the current study showed that females reported that they adopted more strategic and surface approaches than males while studying. They tended to believe in more practical ways to utilize knowledge (Ps), were more organized in their studies (T01), paid more attention to their work and school assignments (T51), and were more alert to assessment demands (T41) than their male counterparts.

In general, men scored higher on the deep approach than women; whereas, women scored higher on the strategic and surface approaches. However, the mean differences were relatively small (and not significant) on the deep approach and only slightly higher on the strategic approach, and there was no significant difference in subscales of approaches to studying. Thus, the researcher cannot conclude that women were using the surface approach more than men, or that men were using the deep approach more than women. When examining the subscales of the three approaches, women scored higher than men in all except seeking meaning and use of evidence within the deep approach. The evidence showed that women and men were focused on the different aspects involved in the deep approach.

Women scored significantly higher in transforming (deep) knowledge in conceptions of learning than men did. They believed that knowledge is for transforming individuals to be more aware of the meaning of one’s life. The result was different from the general belief that women were more surface learners. The result might indicate that females were pragmatic in their learning approaches and their learning results but did not necessarily categorize them as surface learners.

Traditionally, Confucius Heritage Culture (CHC) favors males over females. CHC society has traditional gender inequality because of “the strongly emphasized patrilineal descent principle, the importance of sons, and the absolute authority of the father in the family” (Ortner, 1974, p. 68). Thus, females had fewer chances to pursue higher education and narrower career paths than males. After China’s one-child policy, people started investing the same effort into their only child regardless of gender (Wan, 2012, Hu & Shi, 2018). However, the phenomenon almost everywhere is that males have more job opportunities and have better chances to get promotions. This might explain why females were more into reproducing knowledge than males were. They were
more grade-oriented than males because they treasured their education and wanted to perform well. However, they also knew that education can change their life and transform them into whole persons. Thus, they also scored high on transforming knowledge.

The results section is the most important part of the abstract and nothing should compromise its range and quality. The results section should therefore be the longest part of the abstract and should contain as much detail about the findings as the journal word count permits.

LIMITATION AND STUDY FORWARD

The sample size for the current study was relatively small. Also, though these sample sizes are clearly unequal, according to Tabachnick and Fidell (2007), the sample size can be considered equal if the larger group is no more than four to five times the smaller group. Consequently, analyses were conducted with the data from these samples. Though the independent variable for the research question is “gender,” all analyses also included the other independent variable, “nationality” (country of residence) since that variable was the primary focus of the current study. However, the further research should take the ratio of both genders into consideration for generalization of the research. A longitudinal mixed methods research could be conducted to investigate gender differences between generations of ABCs regarding their learning conceptions, approaches, and preferences of teaching methods. Qualitative research can also be used to examine gender differences further to provide more insights.

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REFERENCE