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Flipping silence to coffeehouse chat: developing Chinese students' critical thinking

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This paper examines how a flipping approach impacted 45 Chinese EFL learners' critical thinking skills and dispositions in a third-year university advanced reading class in Taiwan. The aim was to push learners away from the silence comfort zone to a Western social constructivist coffeehouse chat style by collaborating with a UK facilitator online. There were three phases in flipping, each with different instructional interventions to provide affective support to first build teacher-student one-on-one relationships, prepare confidence in coffeehouse chat, and finally to support emotionally hurt learners who were challenged and who challenged out of a culturally appropriate zone. Data were collected using the *California Critical Thinking Skill Inventory* (Facione, 2011) pretest-posttest; questionnaires; and focus groups. The results demonstrated significant critical thinking skills and dispositions as well as mixed perceptions of the Chinese participants. Future recommendations and curriculum implications for pedagogical and affective support are provided.

Keywords: Flipping approach; Chinese students' silence; social constructivist coffeehouse chat; critical thinking skills; critical thinking disposition; Taiwan

Introduction

Inverting lecture and homework time with in-class problem-solving and discussions has become a popular constructivist educational approach, known as "flipping" (Bergmann & Sams, 2014; Tucker, 2012). It has been applied intensely in science and social science (Louis, Bastian, McKimmie, & Lee, 2015; Murphy, 2014; Schell & Mazur, 2015), but little has been researched regarding flipping for university learners in English as a Foreign Language (EFL) classes (Webb, Doman, & Pusey, 2014). It has also been suggested that Asians in Taiwan, China, Japan, and Korea find it culturally difficult to verbalise critically, due to their regard for social harmony and reverence of authority stemming from the Confucian Heritage Culture (R. Scollon, Scollon, & Jones, 2011; Watkins & Biggs, 2001), Therefore, to confront these difficulties relating to cultural identity and values of silence (Guo & Gu, 2016), a culturally appropriate pedagogy was adopted to explore the impact of effective flipping of Chinese EFL learners' personal and silent critical thinking with their friendly socially constructive dialogues which are akin to coffeehouse chat. The work described in this paper thus aimed at exploring the impact of a culturally appropriate flipped approach in an EFL class that featured a Western online facilitator to maximize thinking dispositions in formal online discussions in Taiwan.

Research questions

The research questions of this study were:

1. To what extent could the flipped approach help to develop Chinese learners' critical thinking skills and dispositions?
2. How do Chinese learners perceive Western facilitation in the flipped approach?

Flipping

Flipping has been found pedagogically effective and problematic in different contexts (Houston & Lin, 2012; Murphy, 2014; Schell & Mazur, 2015). Bergmann and Sams (2014) identified three benefits: learning effectiveness, scaffolding and deepening of critical learning, and in-depth discussions. In pre-class time, teachers are virtually present within their instruction, saving their in-class time for individual counselling and solving problems raised by students. However, concerns include:

- The critical thinking level of in-class activity may not be high, if it is unprompted (Murphy, 2014; Strauss, 2012; Tucker, 2012).
- To prompt interactions, teachers need to logically structure and embed questions in online materials and videos which may be constrained by the limits of technology (Strauss, 2012).

The current research thus intended to explore the impact of flipping the formal and informal discussions which are difficult in Chinese traditional teacher-fronted lectures and exam-oriented assessment (Stannard, 2015; Webb et al., 2014).

Critical thinking

Critical thinking has been differently defined in taxonomies of higher order thinking (Vygotsky, 1981), problem-solving (Picciotto, 2004; Zettergren & Beckett, 2004), and the top levels of Bloom's taxonomy (Bloom, Engelhart, Furst, Hill, & Krathwohl, 1956) analysis, evaluation, and synthesis (Anderson et al., 2001; Stoner, 1997). In the current study, critical thinking skills are defined and judged according to the criteria of the *California Critical Thinking Skill Inventory* (Facione, 2011) which focus on: deduction, induction, analysis, inference and evaluation.

To be successful, learners have to be disposed to critical thinking. The main attributes of such a disposition (according to Facione, 2011) are:
- truth seeking
- open-mindedness
- analyticity
- systematicity
- inquisitiveness
- self-confidence
- maturity

Chinese learners have been found weak in certain critical thinking dispositions (Tiwari, Avery, & Lai, 2003; Yeh & Chen, 2003). Taiwanese college students have been ranked significantly lower than their California counterparts in truth-seeking, open-mindedness, and maturity (Yeh & Chen, 2003). Similarly, Hong Kong students were weaker than their Australian and Dutch counterparts in analyticity and open-mindedness (Frambach, Driessen, Beh, & van der Vleuten, 2014; Tiwari et al., 2003). Hong Kong learners experienced difficulties in group relationships and "face" issues in speaking up and disagreeing directly with peers, for example, "Our tutor emphasized criticism very much. He says that being a doctor you should have critical thinking

instead of admiring others' opinions…Sometimes it embarrassed me to criticize so directly" (Frambach et al., 2014, p. 12). Researchers found that silence arises from lack of open-mindedness, disagreement-avoidance, and the *face* issue (Frambach et al., 2014; Tiwari et al., 2003; Watkins & Biggs, 2001; Yeh & Chen, 2003), as opposed to the concept suggested by Salmon (2003) of "silent thieves" who lurk in discussions and make no contribution in online discussions. The current research investigated cultural challenges for EFL learners in critical thinking dispositions, using a standard test instrument, in English.

Methods

Research context and participants
The participants were 45 third-year university EFL English majors in a year-long English Reading class in a foreign language university in Taiwan. As it was a foreign language major, the majority of the participants (40) were female. Their average age was 21. Their overall English proficiency was generally higher-intermediate English proficiency level, with some below intermediate level. The aims of the two-credit, two-hour per week compulsory course were to increase reading comprehension, broaden understanding of Western values, and enhance critical thinking. The intention for critical thinking to be developed through discussions with peers, face-to-face or online, formal and informal, made the flipped classroom a socially constructivist approach in which learners interactively constructed their own understandings. Much emphasis was placed on opportunities for informal intermental dialogue, akin to conversations in coffee houses. The teachers in this research included a Chinese lecturer in Taiwan and a Western facilitator in Scotland.

Research design
The Chinese lecturer introduced the flipping programme in week 1 of the course, and obtained ethical clearance from the students in week 2. In week 3, students took a pre-test of the *California Critical Thinking Inventory* and a post-test in week 17 of the second semester. The Western facilitator recorded 5-minute critical thinking inputs from the UK as online podcasts. Discussion themes were selected and modified from the textbook *The Short Prose Reader* by Muller and Wiener (2012), and included societal trends, the environment, success, mother tongue, cultural identity and the American dream. Discussion topics, the texts and the Western facilitator's introductory video podcasts were posted on the university's online platform for e-learning one week prior to the face-to-face class sessions for each round of discussions. As an example, the topics for a discussion forum on Chinese cultural identity (Forum 5) included:
- How does Amy Tan express her attitude to her mother and "mother tongue"?
- What difficulties do you predict British spouses might have in marrying Chinese partners and how could these be overcome?
- How do the attitudes to parenting and culture of Amy Tan and Eudora Welty compare?

Flipped procedure
The culturally and affectively appropriate flipped procedure included pre-flipping, flipped, and post- flipped pedagogy which are described below.

Pre-flipping pedagogy
This is the input stage and relates to Bloom's taxonomy for knowledge and comprehension. It is unlike traditional EFL reading classes which lack previewing due to teacher-fronted lecturing and consisted of:
- The building-up and maintenance of the teacher-student relationship. Preferably conducted one-on-one by face-to-face private interactions or social networking online and involving both instructors.
- Preparation for coffeehouse chat in which both instructors created non-academic daily dialogues to make learners feel comfortable in the dialectic mode of the programme.
- Cognitive input through the curriculum design of the Chinese instructor designed to attract learners' interest through culturally and affectively appealing teaching units prompting previewing.

Flipped pedagogy
This stage occurred during face-to-face class sessions and incorporated Bloom's taxonomy for comprehension, application, and analysis with interconnectivity. It was important to cognitively engage learners by collective processing to build up the cognitive foundation for coffeehouse chat, moving from passive listening in silence into collective discussion (C. N. Scollon, Koh, & Au, 2011). To integrate the affective objectives of Krathwohl, Bloom, and Masia (1964), total language immersion in the target language was not essential thus code-switching between Chinese and English was allowed to ensure comprehension. However, individual posting of viewpoints in English was required at the end, to guarantee the learning effectiveness in flipping for Chinese learners to verbalize their opinions. About 5-10% of instructor talk was in Chinese for culturally difficult concepts. This stage included:
- Coffeehouse chat facilitated in class by the Chinese instructor, maximizing a dialogical atmosphere by encouraging question and answer exchanges, and encouraging participation by affective support (downplaying grammatical error corrections, to avoid the *face* issue).
- Cognitive modelling through explicit explanation and modelling by the Chinese instructor in immediate interaction and response providing immediacy to learners and developing awareness of their own flaws in critical thinking.
- A cognitive processing stage when the Chinese instructor allowed collective discussions in Chinese to integrate social and cognitive stimulation, with collective participation in the mother tongue when needed.
- Cognitive preparation for synthesizing and evaluation.

Post-flipped pedagogy
Activity in the classroom context featured Bloom's analysis, synthesis and affective breakthrough in critical discussions including:
- Culturally encouraging and even challenging of learners by the Western facilitator, to critically comment on others' postings in criteria-based fashion (instead of one-sided feelings in online social networking). This emulated an in-depth coffeehouse chat atmosphere.
- Cross-referencing different viewpoints or asking a further question as devil's advocate as prompted by the Western facilitator(Walker, 2004).

- After overly challenging postings the Chinese instructor affectively comforted face-to-face the emotionally exclusive or hurt students.

In summary, unlike traditional EFL reading classes which prioritise testing vocabulary and EFL comprehension in exams, flipped activities depend on social-constructivist dialogues which go beyond patchwork copy-pasting evidence to Socratic devil's advocacy. The Chinese lecturer prepared online input in pre-flipping, offered in-class explicit explanation on background knowledge and answered the problem points with further local examples for Bloom's comprehension, and analysis. The Western facilitator critically commented on postings and asked further critical questions in the online forum by summary, while providing bonus points for exam-oriented learner' scoring incentives and affective support in one-on-one private emails covering Bloom's evaluation and synthesis, and enhancement of self-efficacy (Cowan, 2015).

Data collection

There were three sources of primary data. The first comprised the results of the standardized critical thinking test, the *California Critical Thinking Disposition* (CCTD) (Facione, 2011). This contains 38 Likert-style items covering seven attributes: open-mindedness, systematicity, critical thinking confidence, maturity of judgment, analyticity, inquisitiveness and truth-seeking, with an aggregated total score tabulated by the CCTD system.

Secondly, the summative assessment reflection in week 17 of the course featured 18 questionnaire items on technical, pedagogical and cognitive perception of critical online interactions in English in the flipping experience, with responses on a 5-point Likert scale. The return rate was 93.3%, with 42 valid returns from a sample of 45, with voluntary participation.

Thirdly, data from a student focus group formed by stratified sampling, triangulated CCTD data. Seven participants were selected for each focus group in Week 18 according to their standardized pretest levels: two participants of high critical thinking dispositions (above 281), three of medium level (251-280); and two of low level (below 250). The focus group discussions centred on how the flipped facilitation helped their critical thinking attitudes and the benefits and challenges of flipping in the EFL Chinese cultural context. The focus group transcripts were sent to group members within 24 hours, for checking of reliability and trustworthiness.

Results

This section reports on data from the standardized critical thinking tests; the survey; and the focus groups.

Standardized critical thinking dispositions

Participants increased significantly in their overall critical thinking dispositions (Table 1) and confidence-related critical attitudes, after the culturally and affectively appropriate flipping. The total aggregated post-test critical thinking dispositions score (M=287.09) ranked significantly higher than the pre-test score (M=266.15, p= .001). After the critical discussions, research participants' top critical disposition strengths were inquisitiveness (M=46.82), confidence (M=45.45) and analyticity (M=44.85). In other words, they grew curious, confident in exercising critical thinking, and analytical. The lower critical disposition attributes were truth-seeking (M=32.73), maturity of

judgment (M= 38.18), systematicity (M=39.7) and open-mindedness (M=39.9), which latter is a key component in exercising critical thinking beyond one's own existing view and cultural comfort zone.

Table 1. Participants' ratings for critical thinking dispositions

Attributes	Pretest		Posttest	
	Mean	SD	Mean	SD
Truth-seeking	29.48	5.24	32.73	6.28
Open-mindedness	38.70	3.34	39.88	3.706
Analyticity	42.24	5.05	44.85	5.14
Systematicity	33.91	4.23	39.73	5.02
Critical thinking self-confidence	41.15	5.92	45.45	6.80
Inquisitiveness	43.82	5.47	46.82	5.30
Maturity of judgment	33.91	4.57	38.18	6.98
Total	266.15	21.59	287.09	26.32

Among the five critical thinking skills tested (Table 2), participants improved in all five skills and did significantly better in the posttest of four of the skills, namely, induction (t= 3.26, p = .00<.05), deduction (t= 3.67, p = .00<.05), analysis (t= 3.67, p = .04<.05), evaluation (t=4.29, p = .00<.05), as well as the total critical thinking scores (t=4.76, p = .00<.05). The only critical skill which increased but was not significantly improved was inference (t= 1.13, p = .265>.05), i.e. the ability to infer to deeper implications. The significant improvements may be attributable to the regular online cognitive challenge from the Western facilitator.

Table 2. Participants' scores for California Critical Thinking Skills

Critical thinking skills	Pretest		Posttest	
	Mean	SD	Mean	SD
Induction	5.15	1.91	6.24	1.92
Deduction	6.29	2.37	7.71	2.05
Analysis	3.94	1.30	4.47	1.16
Inference	4.50	1.54	4.82	1.34
Evaluation	5.15	2.15	6.68	2.16
Total	13.59	3.60	16.00	3.37

To sum up, the participants had high and significantly improved: inquisitiveness (desire for learning when the knowledge application is not obvious), self-confidence (trust in one's reasoning process) and analyticity (reasoning with evidence to solve problems), and had improved significantly in induction, deduction, analysis and evaluation cognitive skills. However, despite some advances they need further improvement in critical dispositions and skills of: maturity (to avoid quick decision-making), systematicity (for consistency in arguments, conclusions and supporting evidence), truth-seeking (in using knowledge to support beliefs), open-mindedness (to tolerate opposite views and be aware of their own bias) and inference.

Students' perceptions in survey

Participants' perceptions varied on different aspects of the flipping according to the questionnaire results on the 5-point Likert scale. The highest scoring items related to the following affective support by facilitators:

- Both facilitators' friendliness (4.41),
- The Western facilitator's:
  - individualized emails (4.30),
  - public comments on classmates' cross-referencing feedback (4.19),
  - public individual summaries (4.16) (which excluded negative or critical feedback by incorporating it in private email communication).

The results also portray a moderately positive perception of the pre-flipping video provision (3.56); a slightly higher perception of flipping pedagogy (3.94); and a highly positive view of the Western facilitator's post-flipping one-on-one comments (4.26). While participants agreed that their cognitive readiness in pre-flipping was very important (4.05), the Western facilitator's affective facilitation (4.26) was perceived as highly influential and more effective than his online video podcasts (3.43), and his bonus points (3.76). An intriguing result was that, while participants agreed strongly that his individual summary of the bonus point list on the forum helped them understand the strengths and weaknesses of highlighted postings (4.16), they only moderately agreed that his recommendations for bonus points encouraged them to continue to revise more critical postings (3.76). This may be because the UK practice in selecting postings bonuses was much more criterion-based and demanding than the Taiwanese practice in an EFL environment. Hence, while "well-structured, good contrasts" might gain 5 extra points in Taiwanese students' estimation, bonuses here varied from zero to two points. Consequently, some participants may have felt frustrated and discouraged.

Regarding difficulties in language and EFL expressions, the participants slightly disagreed that English was a major challenge in participation in critical discussions (2.97) probably due to their higher-intermediate English proficiency level; but they moderately agreed that evidence-based arguments (3.68) were challenging and that logical reasoning in composing an English posting in a western way (3.18) was technically difficult. This is different from the Chinese way of circular writing without an upfront stance in the topic sentence or an evidence-supporting argument. The western logical composing requires a single argument.

Focus group findings

The focus group findings show students' positive views on their cognitive and affective progress in flipping with the Western facilitator. One-on-one online communications

and friendly facilitators in Phases 2 and 3 were far more important to students than the online videos in Phase 1. Below is an example of a reflection by an informant with low critical thinking ability, and among the quietest participants within face-to-face settings, in which she described how she learned to evaluate strengths and weaknesses of diverse sources, and to choose a stance:

> I easily agreed with others' existing positions without questioning. Now I look at both the pros and cons of the issue with in-depth reflection….I also noticed that I may have two sets of standards of judgment depending on who is involved in the issue. I have grown (or am forced) to choose a stance. It is quite different!

Many quiet and low-level critical thinking members moved out of the comfort zone of silence. Discussions gradually deepened while participants' perceptions of what they had originally regarded as hurtful and negatively critical comments changed. High critical thinking level informants sustained contributions in discussions to achieve new levels of analytic and evaluative confidence.

Affective support leading to critical breakthrough

Affective support by facilitators was found to help in liberating students from collectivist silence (Cowan & Chiu, 2012). Here also after affective support and trust had been progressively built up through the initial online interactions with the Western facilitator, the majority of the students felt comfortable with email critiques. Three informants reported that, after the affective and cultural adaptation in the initial stage, their online experience with a Western facilitator had been very rewarding. An informant with a high critical thinking level described the realness of friendship in the podcasts and emails, saying "*I came to know facilitator as 'a real person', a friendly, accessible grandfather that I can have a chat in UK.*" Clearly the building of congruent relationships with the Western facilitator played an important role in developing the informants' open-mindedness.

Open-mindedness for EFL Chinese learners

Despite a lack of statistically significant improvement, the participants learned to be open-minded by being expected to analyse a given issue objectively from different viewpoints. The nature of the open and controversial flipping initially stimulated them out of their CHC comfort zone to identify, analyse and declare contrasting arguments. The Western facilitator's personal messages encouraged some students to be more confident in articulating differing opinions. Prior to the study they would not declare their opinions in a face-to-face class. Half of the focus group became more confident than before.

Critical awareness was reflected on the EFL learners' Chinese identity and the Chinese American author's sarcastic perspective of her Chinese identities. Informant T shared his growing confidence:

> Now I am more confident to express my true opinions, instead of guessing what my teachers would prefer to hear. I think western culture tends to focus on divergent ideas and western people are more accustomed to express individualism whereas people in Chinese culture are not accustomed to frankly express their opinions. Deep rooted in my mind, authority's viewpoints and suggestions are what matters the most. My mom told me if I disagree with my teachers, it is impolite and I may suffer loss of scores because of my disobedient attitude. I didn't know what critical thinking really meant.

This student also explained that his critical thinking development had depended on being truly open to alternative views without fear of authority and peer pressures for social harmony, which now appeared to him to be incompatible with critical thinking.

The e-learning discussion was another important breakthrough. Informant D said,

Seeing Prof. John's comments on the discussion forum is a good way for me to learn. I can know the strengths and weaknesses of other classmates. Therefore, I can learn other people's strengths and remind myself not to make the same mistakes as the others.

EFL and cultural hindrances

English reading ability per se was not the most challenging demand for these EFL English majors in the reading class, but rather reflecting opinions in speaking, or in writing an evidence-based argument in a Western way. Three out of seven focus group members reported linguistic difficulties which may have been related to requiring them to support their argument with evidence beyond mere agreement; or cultural differences from the Chinese writing pattern which provides no topic sentence, but circular statements to demonstrate main arguments only in conclusions. As a result, these EFL learners tended to start with evidence but no overt agreement/disagreement. This is the CHC practice of social harmony to minimise exposure of individual opinions but which creates problems for critical discussions. Occasionally, cultural hindrances occurred in post-flipping sessions due to challenging by both parties. In such circumstances CHC apologies may help resolve the breaking of CHC boundaries, which differ largely in the west.

Discussion

Clearly cross-cultural online discussions significantly improved EFL participants' overall critical dispositions. However, unlike Yeh and Chen's (2003) findings (using the Chinese version of the same test) that Chinese learners' critical disposition is less likely to be changed, participants in this research significantly improved in the attributes of systematicity, confidence, maturity of judgment, analyticity, inquisitiveness, and truth-seeking. Only the attribute of open-mindedness failed to improve significantly. This implies that Chinese participants are not disposed to accept knowledge which is contrary to their own existing conceptions (Facione, 2011). This finding is also congruent with the CHC background, where conflicting viewpoints are discouraged as a social norm. Cross-cultural online discussions were found effective in helping develop Chinese learners' overall critical disposition cognitively.

The key features in this model rely on the building of affective relationships with preliminary readings and critical questions (pre-flipping), supplementary cross-cultural Chinese explanations and collective discussions in class (during flipping), and coffeehouse chat and critical one-on-one commenting similar to Vygotsky's (1981) social-cultural constructivist approach (post-flipping). As Schell and Mazur (2015) maintain, cognitive readiness is necessary. In flipping this EFL classroom, the key feature was cognitive reasoning support through culturally acceptable one-on-one tutoring. Participants rated the friendly facilitators and one-on-one emails as the most effective among all forms of support, much higher than the introductory online videos. To stimulate students to prepare for in-depth thinking, this EFL class provided online reading materials linked to prior declaration of critical questions for discussion, thus

triggering culturally appropriate discussions. Face-to-face interactive problem-solving in lectures then eliminated outstanding EFL comprehension problems.

The participants, with their CHC background had mixed perceptions about flipping. Unlike the overt Socratic approach by (Walker, 2004), cross-cultural critical discussions were initially not culturally well-accepted because high-context learning minimizes the logical, linear, and critical individualistic communication assumed in low-context. As C. N. Scollon et al. (2011) found, the social constructivist approach is assumed in the western critical thinking development, yet is not readily accepted in a CHC context. Without the affective support formed in one-on-one email contacts and cultural exchanges, critical thinking development would not have been possible because critical thinking cannot be isolated from the affective domain, as Krathwohl et al. (1964) concluded.

Although the language factor posed slight difficulties in both the critical thinking test and the English discussions, critical online discussions with the Western facilitator stimulated Chinese participants to leave their comfort zone of silence and social harmony. The Western facilitator gently but explicitly challenged the learners' eagerness in seeking best knowledge beyond a common, safe CHC viewpoint. Although participants may perceive critical comments to be negative and emotionally hurtful in evidence-based argument, the Western facilitator pressed for identification and description of opposite views (open-mindedness) and for suspension of decision-making (maturity of judgment). Hence contextualizing discussions in a cross-cultural critical discussion environment fostered a critical thinking disposition, yet with some cultural discomfort.

The free and frank atmosphere of coffeehouse chatting about important issues is difficult to develop, due to the perceived desirability of having CHC harmony and respecting teacher authority. Contrary to Salmon's (2003) dismissal of lurkers as "silent thieves", the Western facilitator's affective facilitation helped overcome such reasons for silence as perceptions of cultural inappropriateness and lack of confidence. CHC learners' high respect of teachers may result in low overt and critical participation in class, while some CHC teachers are also not used to this different role.

Verbalising higher order thinking online takes a longer route and uses a different model. The key to unlocking this barrier was affective support provided face-to-face and online, as positive reinforcement (as discussed elsewhere by Chen, Chou, & Cowan, 2014). In an online CHC culture, the facilitator's affective approach must show particular care for Chinese learners' sensitive attitude to critiquing, particularly regarding open-mindedness and cognitive flexibility.

As R. Scollon and Scollon (2001) explained, an assessment-directed educational context may challenge Chinese learners to post primarily in order to score. In this study, scoring depended on the quality of postings, not the quantity. However, the participants were not necessarily appreciative of being partially graded by the Western criteria-based bonus point system. They felt it culturally more acceptable to be offered sample postings to explain assessment and to award a basic score for all postings following a clear criteria-based checklist.

There are also difficulties with workload associated with implementing the model described here. Reading and responding to all postings is time-consuming for teachers but is essential to let learners feel their voices valued and responded to. It may be difficult to implement adequate immediacy in facilitating one-on-one online comments in a large class, given the time pressures. This may be overcome using collective group postings, followed by a required peer comment on another group's posting, and then a teacher's critical comment on peer comments. This method was found effective by the

participants as a way to learn the strengths and weakness of others' postings (see questionnaire results reported earlier).

Finally, this approach requires considerable change to curriculum design and assessment**.** Teachers need deeper and broader professional knowledge than can be derived from a textbook. Additionally, they have to model cognitive flexibility to modify pedagogy to continue the dialectic mode of learning. Meanwhile, learners' scores are not based on final exams with standardized answers but on online critical participation. In a score-obsessive CHC context it is challenging to be perceived to be fair. A rubric and scoring criteria, along with a sample of excellent and ordinary postings may be needed for cognitive modelling. Two-digit scoring (e.g. 88/100) is often the norm for school assessment; hence, any bonus points awarded with clear criteria (like supporting evidence, cross-referencing other postings) are considered significant for those with high parental expectations and self-achievement.

Conclusion

The project reported here set out to explore the potential of a flipped EFL classroom using coffeehouse-like critical thinking developmental discussions and a Western facilitator, and the CHC learners' perceptions of it. It demonstrated that critical thinking dispositions can be significantly enhanced by developing pre-flipping affective relationships, facilitation during flipping and post-flipping challenging. Participants were positively disposed to accepting and benefiting from it, contrary to their own cultural disposition in which expressing critical thinking or even considering diverse viewpoints is discouraged by the social norm and is contrary to their existing conception of decision-making (Facione, 2011).

Limitation of the study

The findings of the study may not be generalizable to the entire Chinese EFL population for critical thinking, due to the limited sample in a reading class in a foreign language university in Taiwan and the one-on-one commitment and style of a Western facilitator. The very fact that the Western facilitator presented himself and behaved in a Western style accommodated to the CHC culture was surely an important factor which a Taiwanese instructor could not replicate.

Implications

Feasible and effective components of a flipping approach include:

Pre-flipping stage
- Prioritising affective needs before cognitive needs with unconditional positive regard
- Providing reading and critical questions as cognitive inputs

Flipping stage
- Face-to-face teacher facilitation in collective discussion for structuring critical questions
- Stimulating divergent opinions in individual online postings

Post-flipping
- Creating online coffeehouse chat by playing Devil's Advocate
- Affectively supporting challengers and those who were challenged in public online forum for CHC emotional hurt

This approach proved feasible, was positively rated by the students, and contributed to significant overall improvements. Due to the different cultural perceptions of critical thinking, the critical comments and culturally unaccepted overt challenges may cause miscommunication in the cross-cultural discussion process as Chinese EFL learners feel apologetic in crossing cultural boundaries. Future study is recommended to explore cross-cultural miscommunication in such contexts.

About the author
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