High School Students’ Emotional Perception and Attitudes Toward English Teacher’s Feedback in Cloud Classroom Learning Environments

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Abstract

Cloud classrooms are catching increasing attention in English teaching during the outbreak. This study, by using multiple correlation analysis, path analysis, and data collected from randomly selected 230 participants, explored the effects of students’ emotional perceptions and attitudes towards teaching feedback in cloud classroom learning environments. It was concluded that all emotional perceptions correlated significantly and positively, and of which learning motivation was the most significant effect, followed by interest. Besides, learning motivation could essentially predict the perceived teaching feedback in this learning environment. Furthermore, students with strong self-confidence could spark their learning motivation and interest in English learning. Concerning students’ attitudes towards teachers’ feedback, high-score students preferred more profound and euphemistic comments; medium-score students hoped to catch more attention and obtain positive feedback from teachers; poor-score students favored direct and explicit evaluations. These findings might be helpful to future researchers who attempt to discover non-verbal and peer feedback to students’ learning outcomes and emotions in technology-based learning environments.

1. Introduction

The swift and accelerated development of communication and information technologies are playing an increasingly significant role in English language teaching and learning. It becomes prominently obvious, especially in the context of the outbreak of COVID-19. Hence, it is a must to introduce the conception of e-learning and cloud classroom before seeking to test their effects on language learning.

1.1 Conception of e-learning

E-learning, a learning style, is based on various electronic devices such as mobile phones, computers, and tablets to achieve learning objectives online through personal, cultural, or learning content interactions (Hong et al., 2017; Yu, 2019). It is of significance to measure the effects and emotional perceptions in learning via these instruments (Yu, 2019).

1.2 Introduction of cloud classrooms

To make sure “stop classes but never stop learning” in the epidemic, all high schools in China have carried out cloud classrooms through live broadcast platforms such as Ding Talk by Ali, Super Star Learning System, Rain classroom, MOOC, QQ, and Tencent Meeting, etc. Besides China, numerous countries have been dedicated to educational technology along with the unceasing development of information technology (Rahayu et al., 2021). Education methods, hence, has been greatly influenced and online teaching is gradually prominent for greater advantages in many ways.

With wide dissemination coverage and strong traceability, cloud classrooms can accommodate hundreds of students at the same time. Each student can listen to the class clearly and intuitively without being
disturbed by other factors offline. In this case, the cloud classroom breaks the boundaries of time and space.

The cloud classroom could significantly enhance the interaction between teachers and students, and almost everyone could directly participate in interaction through comments and hand-raising. In this way, students can speak freely and express their views boldly.

1.3 The functions of cloud classrooms

Cloud classrooms, online live broadcast instruments in China, integrate the traditional face-to-face classroom teaching into technology and resources, and have optimized classroom presentation, interaction, and evaluation through technological support. In a cloud classroom, teachers can adopt various practices available such as online multiple choices, forestalling-answer, classroom rewards, screen sharing, web-page posting, and timekeeping, etc. It can also promote teacher-student interaction through comments, hand-raising, and group discussion. Each student has a chance to answer questions and interact with teachers and peers. Students can send written messages, photos, audios, and videos in the comment section for in-class discussion.

After class, both students and teachers can review through playback by setting speed multiplier such as low speed and double speed, etc. This could help students to visually review and further consolidate previous knowledge by watching the replay videos. Aided with communicative tools, students can also raise questions on communicative applications such as Wechat and QQ (Chinese online communicative applications) after class. This could help cloud classrooms play an utmost role in both online and offline teaching and learning.

1.4 Characteristics of students and cloud classroom learning environments

Students’ individual differences (e.g., self-efficacy, learning objectives, educational background, personal innovativeness) have received wide attention from researchers. Learning styles, i.e., learners’ preferred learning strategies, also differ individually (Entwistle, 2013). Technology-learning is primarily self-directed (Karimi, 2016). Students thereby may be encouraged or unmotivated in this environment in which they are able to individualize and contextualize their learning styles. Moreover, students with higher willingness to adopt technology learning are more inclined to perceive learning positively (Karimi, 2016).

The cloud classroom, different from the conventional classroom, is a type of technology-enhanced learning environment where students only attend online classes. Different from conventional environments, technology-enhanced learning environments might affect students’ learning experience, emotional perception, and class interaction (Haro et al., 2019). By contrast, cloud classroom learning environments might face various challenges, such as teachers’ insufficient technology skills and incapability of dealing with technological problems during classes, which can have an opposite impact on students learning experience (Rahayu et al., 2021). Another issue this learning environment affected is
the absence of effective supervision to students’ behavior (Roddy et al., 2017). Teachers’ feedback thus should be perceived by students immediately.

2. Literature Review

This section is comprised of four subsections, including English teachers’ feedback in the cloud classroom, learners’ emotional perceptions and attitudes towards English teacher’s feedback, and research questions.

2.1 Teacher feedback in the cloud classroom learning environments

Feedback, referred to ‘information provided by an agent about personal performance or understanding’, has been perceived as one of the strongest effects on foreign language learning processes (Harks et al., 2014). For decades, teachers’ feedback has been deemed as one of the most persuasive effects on English learning as it could scaffold students’ cognitive development, focus on their weaknesses and strengths, and provide a suggestive solution for better performance (Vøtty & Smith, 2019). Teachers’ beliefs about their feedback would affect online classroom environments from physical, emotional, and pedagogical dimensions (Vøtty & Smith, 2019; Closs et al., 2021). Despite feedback has a positive impact in general, not all types of feedback are fairly effective. Negative feedback makes learners more likely to be lost in the online learning environments than in the traditional one, whereas positive feedback would exert a significant effect on students’ learning motivation. Feedback should, however, be regulated, ordered, and structured in a particular way to stimulate student engagement (Harks et al., 2012).

Differences in feedback may exist in offline and online learning environments. Online feedback is more positively accessed by students, and thus more probable to impact their emotions and further learning than in the face-to-face mode (Moffitt et al., 2020). Therefore, teachers could include feedback in teaching plans and elaborate in detail from the following aspects: who should receive their feedback, how and when it is best given, which learning environment it should be delivered, what it should contain, and why it should be delivered (Brown et al., 2012; Moffitt et al., 2020).

Many researchers have focused on feedback effects on error correcting and learning achievement (Brown et al., 2012). Some have concerned motivational effects (McGarrell & Verbeem, 2007; Narciss, & Huth, 2006), and a few have explored students’ self-perception (Zhang, 2020; Patti et al., 2021). The impact of teachers’ feedback on students’ emotional perception in online language learning environment remains less explored. This study is thus an effort to embark on exhaustive research that assesses high school students’ emotional perception and attitudes in cloud classroom learning environment.

2.2 Students’ emotional perception of feedback

It is becoming increasingly difficult to ignore students’ emotional perceptions in cloud classroom learning environments. Krashen (1985) proposed that in the process of language acquisition, learners should not only ensure sufficient comprehensible input, but also focus on the impacts of emotional factors. Krashen
interpreted, in general, the affective factors included motivation, attitude, self-confidence and inferiority. If learners were motivated, confident and had no inferiority or negative emotions during language acquisition, the comprehensible input they received would promote target language acquisition or vice versa. There are five scales in this research based on the affective filter hypothesis, namely, perceived teaching practice, learning motivation, self-confidence, interest, and inferiority. This study is committed to testing whether learning motivation, self-confidence, interest, and inferiority can function as indicators and predictors of perceived teaching feedback in cloud classroom learning environments.

2.2.1 Learning motivation

Learning motivation, the director of students’ learning behavior, has always been perceived as a strong indicator and contributor to students’ learning success (Narciss, & Huth, 2006). In this case, many studies have investigated the positive correlations between student motivation and their educational achievement (Javad & Shahnaazari, 2020; Yu et al., 2020). Moreover, motivation is the principal reason to promote learners to engage, perform, and persist in a learning environment (Yu, 2019, Javad & Shahnaazari, 2020; Yeager & Dweck, 2020). Nevertheless, learning environments can impact students’ motivational processes and performance (Dale & Maria, 2020), and online learning environments are hypothesized to enhance students’ motivation than conventional learning environments (Teklu, 2010; Yu, 2020). Internet-supported learning environments could be identified as a motivation source by its friendliness and usefulness (Patti, 2021). The synchronous and asynchronous learning environments can help students to complete tasks, acquire knowledge, and interact online (Teklu, 2010; Yu, 2019). In this study, motivation is, therefore, perceived as a significant emotional predictor of teaching feedback practice.

2.2.2 Self-confidence

Confidence can be viewed as state-like and it changes over time based on tasks, and students of different ages need self-confidence (Fleeson, 2007; Brown et al., 2016). Being self-confident enables students to do more autonomous thinking and finally benefit their learning satisfaction and outcomes (Roh et al., 2013; Yu, 2019). Recent studies have indicated that attitudes towards online learning environments can positively predicate students’ self-confidence in many different ways from critical thinking, error-correcting, performance, and activities engaging (Hong et al., 2017; Yu, 2019). Self-confidence, however, obtained from internet learning environments, can be fairly consistent in showing prediction of progress in critical thinking (Hong et al., 2021). Thus, the study intends to examine the effects of self-confidence on perceived teaching feedback in cloud classroom learning environments.

2.2.3 Interest

Online learning environment has been catching learners’ increasing interest since it appeared (Wu et al., 2018). Interest is generally referred to as a motivational variable that could arouse individuals to engage in learning activities (Renninger & Hidi, 2011). Interest has been coupled with positive results. In other words, interest-driven learners are more likely to concentrate on, persist, and commit to activities in
learning context (Saba et al., 2019). Interest is central in technology-based learning environment and positively correlated with learning achievement (Wu et al., 2018). Besides, technology-based learning environments provide a platform allowing numerous students to acquire and share knowledge, cooperate, and interact with peers online. Students with higher interest might find learning enjoyable and perceive teachers’ feedback positively in cloud classrooms. (Harks, 2014; Haro, 2019).

2.2.4 Inferiority

Negative self-conception is also one of the essential factors influencing individual mal-adjustments (Alexander et al., 1957). Alder was also the first researcher who put forward the theory of inferiority, where he stated that inferiority was a crucial driving force associated with personal development. Inferiority was manifested among top students as low self-evaluation, sensitivity, and self-concealment (Karimi, 2016). Based on cognitive theories (Beck, 1967), inferiority is inseparable from the individuals’ self-evaluation and it is unavoidable in the emotional perception of teaching feedback. Previous studies explored students learning on screen and found screen inferiority from performance and overconfidence which inferiority could be overcome by different media environment, feedback practice, and qualitative guidance and regulation (Lauterman & Ackerman, 2014).

2.3 Students’ attitudes towards feedback

Many studies have diverted their focus from the effectiveness of teachers’ feedback to students’ attitudes towards feedback in L2 (Li et al., 2015; Moffitt et al., 2020). Previous studies on university students’ attitudes reveal that online feedback couldn’t act as a learning aid although it can promote evaluation processes (Wen & Tsai, 2006; Kormos & Csizér 2008). Gender differences in attitudes towards feedback also exists in online contexts where males had more positive attitudes than females do (Kormos & Csizér 2008). Moreover, Chen and Cheng (2008) have concluded that students are disappointed with feedback because it does not help improve their performance. However, according to Li et al. (2015), 18 out of 27 students expressed high satisfaction, which pointed out evaluators’ corrective feedback works. Varying attitudes toward feedback may be responsible for different tasks, research designs, and student groups.

Students’ attitudes towards feedback are also identified to be influenced by environmental factors (Denton et al., 2008). English as foreign language (EFL) learners do not study in a decontextualized environment. Rather, they are often faced with multiple after-class assignments from different course teachers simultaneously (El Ebyary & Windeatt, 2010). Students usually prioritize their learning tasks based on their learning beliefs (Suzuki et al., 2019). In this way, their attitudes towards feedback are prone to be affected by environmental factors, such as teacher stance, workload and educational methodology (Zhang, 2020).

In this study, students’ attitudes integrated with emotional perceptions are explored in cloud classroom learning environments.

3. Research Questions
In this study, research questions are raised as: (1) Which emotional perception is of great significance for teachers to change their way of feedback? (2) How do those emotional perceptions correlate? (3) How do emotional perceptions predict teaching feedback practice? (4) What are students’ attitudes towards English teachers’ feedback in a cloud classroom?

3.1 Methods

This study adopts a quantitative method comparing the emotional perceptions to identify if significant differences exist, coupled with a qualitative method to study the correlation between students’ online attitudes and teachers’ feedback.

3.2 Participants

The number of the distributed questionnaire is 246, of which 230 is valid. This research involves 230 high school students using cloud classrooms, 86 in Grade 1, 47 males and 39 females; 91 in Grade 2, 39 males, 52 females; 53 in Grade 3, 23 males and 30 females. See Table 1 for details.

| Participants | Number | Age | Mean of Age |
|--------------|--------|-----|-------------|
|              | Male   | Female | Total |           |
| senior 1     | 47     | 39   | 86    | 15-17    | 16.34     |
| senior 2     | 39     | 52   | 91    | 16-19    | 17.69     |
| senior 3     | 23     | 30   | 53    | 17-20    | 18.71     |

3.3 Instruments

We used two research instruments in the study, i.e., a questionnaire and an interview.

3.3.1 Questionnaire

The questionnaire (Appendix A) is adapted from the Responsive Pedagogy Questionnaire (RPQ), an interdisciplinary one, primarily developed in mathematics in Norwegian lower-secondary schools by a research team (Smith et al., 2016). RPQ is adapted by replacing mathematics with English in this study. Moreover, we combine Wen Qiufang’s learning motivation questionnaire (2001) with Li Xiaodong’s self-efficacy questionnaire (2000). There are two parts in this questionnaire. The first part deals with the demographic information of participants, and the second part consists of seventeen items concerning students’ emotional perception in the teaching practicum.

Before the formal distribution of the questionnaire, the reliability was tested among 30 students ($\alpha=0.826$), demonstrating that the reliability of the whole questionnaire reached a satisfactory level.
3.3.2 Interview

As an essential research method in qualitative research, an interview can be applied to combine with a questionnaire so as to learn more about students' perception of teachers’ feedback in the online cloud classroom environments. The interview questionnaire used in this study is appropriately modified based on the interview outline of Pan Cunbing (2009) and He Jun (2013). Nine of 230 participants are randomly selected to join an interview. The five questions, designed following the theme of the questionnaire, are listed as follows:

Q1: Do you think English teachers' feedback in the cloud classroom plays a pivotal part in your English learning?

Q2: What do you think of the positive and negative feedback in the cloud classroom?

Q3: Do you think the teacher's positive feedback help to enhance your self-perception?

Q4: What kind of feedback do you prefer the teacher to give you?

Q5: What kind of feedback do you think needs to be improved in the cloud classroom?

4. Results And Discussions

4.1 Research hypotheses

The questionnaire results are systematically presented based on proposed research hypotheses.

Hypothesis 1: Learning motivation is significant for teachers to change their way of feedback.

Hypothesis 2: All emotional perceptions correlate significantly and positively.

Hypothesis 3: All the emotional perceptions can significantly and positively predict teaching feedback practice.

4.2 Descriptive statistics

4.2.1 Reliability

The scales on perceived teaching feedback (=.799), learning motivation (=.847), self-confidence (=.726), interest (=.702), inferiority (=.756), all items have strong inter-consistency. Two scales have two items (self-confidence and interest), two scales have three items (perceived teaching feedback and inferiority), and one has seven items (learning motivation).

4.2.2 Data analysis
On the whole, the descriptive statistics for the scales in Table 4 illustrate that learning motivation is the scale with the lowest mean score (M=1.82), indicating that the students generally report a high desire for their teachers’ positive feedback. The highest mean score is inferiority (M=2.15), showing a great spread whether students enjoy the teacher’s feedback in a cloud classroom.

Of the 17 items consisting of the scales shown in Table 4, the descriptive statistics show that ‘English teachers’ interruption and correction of my mistakes make me insecure and failed’ (M=2.88) is with the standard value 0.61, implying that most students do not find teachers’ help can arouse a lot of confidence or excitement in them. On the contrary, the statement ‘English teacher’s enthusiastic and humorous feedback was of great help to my learning enthusiasm” (M=1.63) suggests that most students have high motivation in their EFL competence. The standard deviation for this scale is also higher (SD=0.44).

Pearson's product-moment correlations between the scales in Table 2 demonstrate that all the scales (variables 1-5) have positive, statistically significant correlations. The highest correlation is found between perceived teaching practice and learning motivation (p=.74). There is also a moderate-high correlation between interest and self-confidence (p=.65).

Table 2 Pearson's product-moment correlations

| scale                       | 1   | 2   | 3   | 4   | 5   |
|-----------------------------|-----|-----|-----|-----|-----|
| 1. Perceived teaching feedback | --  |     |     |     |     |
| 2. Learning motivation     | .74**| --  |     |     |     |
| 3. self-confidence        | .44**| .41**| --  |     |     |
| 4. interest                | .41**| .53**| .65**| --  |     |
| 5. inferiority             | .38**| .51**| .23**| .32**| --  |

Note. n=230. **p<.01. (two-tailed).

4.2.3 Multiple regression analysis

Multiple regression analysis is adopted to predict and mediate perceived teaching feedback in accordance with students’ perception of four independent variables: learning motivation, self-confidence, interest, and inferiority (see Table 3). All the independent variables can significantly and positively predict perceived teaching feedback practice. The model shows that learning motivation (=0.58, p<0.001) is the strongest predictor of perceived teaching feedback. Therefore, hypothesis 1 and 2 are accepted.

Table 3 Multiple regression analysis with perceived teaching feedback as the dependent variable
Learning motivation | .58 | .06 | .54 | 4.96 | .000  
self-confidence | .16 | .02 | .16 | 6.76 | .044  
interest | .12 | .06 | .12 | 2.02 | .000  
inferiority | .06 | .03 | .09 | 2.15 | .000

Note: N=230 students $B$=unstandardized beta; $SE B$=standard error for unstandardized beta; $\beta$=standardized beta; $t$=t-test statistic; $p$= probability value.

4.2.4 Path analysis

Through several path analysis, we conducted the final model to test their correlations using self-confidence, inferiority and learning motivation as independents variables, mediated by interest, and perceived teaching feedback as a dependent variable to calculate (Figure 1). The modification indices show that the model fit is improved by considering the direct effects on perceived teaching feedback. $R^2$ of perceived teaching feedback is 0.51, depicting that 51% of the variance in perceived teaching feedback can be explained in this model. Fig. 1 manifests the mediators have different functions. The final model reveals that there is a good fit when inferiority and self-confidence are used as predictors for perceived teaching feedback mediated by interest.

First, the correlation demonstrated in Figure 1 suggests that self-confidence positively and strongly predicts perceived teaching feedback if mediated by the interest which is in line with the affective filter hypothesis proposed by Krashen (1985).

Second, the model demonstrates the strongest prediction of perceived teaching feedback when mediated by learning motivation. The paths that go solely through learning motivation, without going via interest have slightly lower positive beta weights. This suggests that students with high motivation and perceptions perceive teachers’ feedback practices as high when they have strong positive learning interests. Thereby, the third hypothesis “All the emotional perceptions can significantly and positively predict teaching feedback practice.” is rejected.

Table 4 Descriptive statistics for perceptions in scales
| scales                  | items                                                                 | M   | SD   | Skew | Kurt  |
|------------------------|------------------------------------------------------------------------|-----|------|------|-------|
| perceived teaching feedback practice | 1. I think English teachers should confirm or deny in time whenever I answer questions in the cloud classroom. | 1.93 | .69  | .955 | 1.190 |
|                        | 1. I suppose it is necessary for teachers to make certain comments to help me learn English correctly. | 1.76 | .46  | .595 | .339  |
|                        | 1. When I do not understand the content in an online class, it is necessary for teachers to timely help me understand it with simple and clear language. | 1.72 | .42  | .645 | .701  |
| learning motivation    | 1. The positive feedback I receive from English teachers helps me to actively participate in class questioning. | 1.73 | .37  | .222 | -.584 |
|                        | 1. I can listen attentively if English teachers affirm and complement my answers in a cloud class. | 1.73 | .45  | .719 | .842  |
|                        | 1. Timely feedback can help to activate the classroom atmosphere.     | 1.82 | .65  | 1.151| 1.951 |
|                        | 1. English teacher’s enthusiastic and humorous feedback is of great help to my learning enthusiasm. | 1.63 | .44  | .727 | .471  |
|                        | 1. Certain feedback can help me to know whether my opinion is true or false. | 1.83 | .41  | .763 | .852  |
|                        | 1. Proper feedback from English teachers helps me to have more than two Q&A interaction with the teacher. | 1.93 | .52  | .170 | -.309 |
|                        | 1. I enjoy further discussion with English teachers about my pronunciation. | 2.07 | .41  | -.092| -.978 |
| self-confidence        | 1. Praised and affirmative feedback received from the teacher make me more confident in my English learning. | 1.75 | .43  | 1.047| 3.657 |
|                        | 1. English teachers’ no response to my answer will reduce my confidence and enthusiasm for learning. | 2.35 | .50  | .734 | .133  |
| interest                                                                 | 1.79 | .44 | 1.329 | 3.051 | .702 |
|-------------------------------------------------------------------------|------|-----|-------|-------|------|
| 1. I am interested during the interaction when English teachers insert a short piece of relevant content to enrich our knowledge. I think it can help me learn more. |      |     |       |       |      |
| 1. English teachers’ repetition of other classmate's speeches helps me to understand their ideas clearly. | 2.13 | 1.01 | .775  | 1.116 |      |

| inferiority                                                             | 2.88 | .61 | -.081 | -1.158 | .756 |
|------------------------------------------------------------------------|------|-----|-------|--------|------|
| 1. English teachers’ interruption and correction of my mistakes make me insecure and failed. |      |     |       |        |      |
| 1. English teachers’ help is necessary if I don’t know how to answer their questions. | 2.00 | .62 | .903  | 1.981  |      |
| 1. English teachers’ comments on my answer make me nervous. I was afraid that my answer was incorrect. | 2.30 | 1.35 | .769  | -.078  |      |

Note. n=230 students. M= mean; SD= standard deviation; skew=skewness; kurt=kurtosis; A high mean indicates a low level of agreement (1= strongly agree; 2= agree; 3=neutral; 4=disagree; 5= strongly disagree)

4.3 Students’ attitudes and thoughts on teachers’ feedback

The interview survey aims to analyze and summarize different views and expectations of students on teachers' feedback. To ensure the reliability of the data, 9 participants are selected according to their daily test scores: No. 1, 2, and 3 students are high-score students, No. 4, 5, and 6 medium-score; and No. 7, 8, and 9 poor-score.

High-score students care about verbal responses from teachers in the cloud classroom and they usually ponder and consider carefully before making changes after receiving feedback. They are rarely worried or afraid of making mistakes. For them, teachers’ corrective feedback can help make up for their inadequacy, but they prefer euphemistic feedback, instead of directly pointing out their mistakes. Additionally, these three students believe that teachers’ positive feedback occupies an important position in the cloud classroom and it can give them a continuous source of confidence. However, according to these three students, they are more likely to receive explicit and in-depth compound responses.

The performance of medium-score students in learning motivation and enthusiasm differs greatly from high-score ones. According to the conversation with these three students, they realize the significance of positive feedback in the cloud classroom and believe feedback can produce enormous effects. For
example, No. 4 student says in the interview, “My English level has always been up and down. I think teachers can encourage me. Their simple positive feedback may make a big difference. Sometimes it’s not because I don’t want to learn, but I am scared to make mistakes.” Medium-score students are nervous and anxious about corrective feedback. They fear English teachers will criticize them and wish teachers to use indirect feedback like a euphemism or give them more attention in the cloud classroom.

Poor-score students indicate that they prefer simple and clear feedback methods, such as simple praise or direct correction. Students 7,8,9 say that it is hard to understand teaching content in the cloud classroom, and also, they have no interest in English learning. When their answers are wrong, they hope that the teacher can point out the inadequacy. If English teachers use complex feedback methods, it will burden their understanding. Student 8 says in the interview, "I seldom concentrate on listening in offline class, let alone cloud classrooms. I'm afraid that the teacher will call me for answers. If I answer correctly, I hope the teacher can praise me, but I don't think it's meaningful. Answers happen to be correct at one time, but I still don't understand when it comes to the next content." Due to their poor English proficiency, poor-grade students with low enthusiasm favor simple and direct feedback.

Hence, teachers are required to deal with the individual differences between students in different grades, mobilize the atmosphere through verbal response, and flexibly adopt different positive feedback strategies.

5. Conclusion

This study discusses the major findings, limitations, suggestions for future study.

5.1 Major findings

This study analyzes and summarizes high school students’ emotional perception of English teachers’ feedback in cloud classroom learning environments. According to the data analysis, the following conclusions can be drawn:

Of all the perceptions (learning motivation, self-confidence, interest, and inferiority), learning motivation has the strongest correlation to perceived teaching practice, and it is also the most significant one. The students in general have high expectations for teachers’ motivating feedback, however, teachers still need to seek stimulating methods to protect students’ self-dignity and encourage their learning enthusiasm. Students universally conceive that English teacher’s euphemistic and humorous feedback is of great help to their learning enthusiasm in cloud classroom.

All the emotional perceptions are correlated significantly and positively. self-confidence can positively and strongly predict perceived teaching feedback when mediated by interest. Teaching feedback can be strongly predicted by others mediated by learning motivation. Besides, students with high motivation and perceptions perceive teachers’ feedback as high when they have strong positive learning interests. This finding indicates that strong self-confidence can spark great learning motivation and interest in learning
English. Also, students with high motivation view teachers' feedback valuable when they have strong positive learning interests.

In terms of students' attitudes towards English teachers’ feedback in cloud classroom environments, students with different learning levels reflect disparate views. High-score students desire more profound and euphemistic comments. Meanwhile, medium-score students hope to get more attention and receive positive feedback rather than criticism in the cloud classroom. For students with poor performance, in-depth compound feedback will increase their burden of understanding. Teachers can give them confidence by offering guidance, extending their time for answering questions, and giving direct and explicit evaluations.

5.2 Implications

Throughout this research, we can know challenges and deficiencies of cloud classroom learning environments.

There is a psychological, social, and interaction distance between teachers giving feedback and students receiving feedback in online environments. Besides, teacher feedback in cloud classroom environments is perceived to be less confidential than that in offline environments. This will impact student participation and satisfaction with teacher feedback. Nonetheless, facing these unique challenges, developers of cloud classroom technology can introduce new solutions to improve privacy, enjoyment, accessibility, credibility, and effectiveness of communication in cloud classroom environments.

English teachers should be aware of the effects of verbal feedback in a cloud classroom and attach importance to its influence on students' emotions. They should give timely and appropriate feedback as students hope to get emotional satisfaction from teachers. Teachers can observe students' responses after giving feedback and find out the shortcomings of feedback through playback after class to make improvements.

Teachers can also establish emotional ties with students to drive their learning motivation. Teachers can shape a good image, and use personal charm to motivate students' learning. Moreover, teachers can give students more time to think after asking questions and lengthen the waiting time when students answer, which can increase the probability of answering correctly and enhance students’ self-confidence.

Besides, teachers should pay attention to emotional effect of their feedback on learners' second language acquisition and transformation. They should not only provide sufficient comprehensible input language, but also encourage learners' positive emotions. Through positive feedback, students can enhance their self-confidence, eliminate their learning inferiority or other negative emotions so as to promote their language learning.

Finally, good teachers know how to formulate feedback effectively. From the obtained data of the questionnaire and interview, positive feedback will produce an irreplaceable role. Thereby, teachers should
give priority to positive feedback, and negative feedback as complement. Simultaneously, as presented in the interview, teachers should notice individual differences in teaching practice.

5.3 Limitations

First of all, there are many online teaching instruments in cloud classrooms, so this research cannot well represent every current online learning situation; secondly, feedback of this study ignores non-verbal feedback, such as gestures, eye-contact, etc., and neglects the impacts of non-verbal feedback on students' scores and emotions in cloud classroom environments; finally, the given feedback forms outside cloud classrooms, such as after-class conversation, homework feedback, class meeting speech, etc., will also have a certain effect on students' learning process.

To sum up, given the limitations summarized above, the author hopes that future research can consider non-verbal feedback methods such as gestures and eye-contact, etc. Besides, the emotional perception of teachers' feedback on students in other situations also needs to be taken into account. On this basis, it is necessary to increase the sample numbers to improve the quality and make the data more representative, scientific, and reliable.

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**Figures**

![Path analysis of perceptions mediating perceived teaching feedback](image)

**Figure 1**

Path analysis of perceptions mediating perceived teaching feedback

**Supplementary Files**

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