Research on the Application of Language Input and Interaction Hypothesis in HSK Personalized Tutoring

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Abstract: This paper briefly introduces three hypotheses in the theory of language input and interaction, and some related researches. Guided by the theories of comprehensible input, semantic negotiation and effective output, we carried out a teaching experiment aimed at improving the primary teaching of HSK standard course through two teaching observations and reflections. The teaching experiment proves that the improved teaching design can promote learners to learn Chinese more effectively. At the same time, the author also points out the problems in the teaching of Chinese as a foreign language by applying the principles of comprehensible input and semantic negotiation, and that the theory should be applied to promote the innovation of the method of teaching Chinese as a foreign language.

Keywords: language input, interaction, HSK, personalized tutoring

1. Introduction

This paper studies how to improve the personalized tutoring of HSK Chinese by using the language input and interaction hypothesis. It is of great significance to guide the innovation of teaching Chinese as a foreign language with the theory of second language acquisition by improving the quality of language input, teacher-student interaction and learner output, and promoting HSK teaching with communicative approach and task-based language teaching as the core concepts to achieve better teaching effect. The thesis is divided into five parts. The first part introduces three hypotheses under the theory of language input and interaction, and briefly reviews the relevant theoretical and applied researches in China. The second part is the reference group's teaching design, teaching observation and reflection. The third part is a new teaching design, teaching observation and reflection based on the first one and improved by the language input and interaction hypothesis. The fourth part discusses, analyses and demonstrates the two problems that still exist in the teaching after comparing the two teaching methods. The fifth part summarizes the research of the whole paper and puts forward the prospect for the future.

2. Theory

2.1. Theoretical Introduction

In the language input and interaction hypothesis, language input and interaction refer to the external environment in which language acquisition occurs. "Language input" is to provide learners with unilateral language information, such as watching movies, reading newspapers and listening to

news. Learners have no chance to communicate. "Interaction" emphasizes two-way language communication and exchange. It can be between native speakers and learners or between learners.

In the study of language input and interaction, there are mainly three kinds of hypotheses, namely, Krashen's input hypothesis, Michael Long's supplementary extended interaction hypothesis and Swain's output hypothesis.

In Krashen's input hypothesis, he believes that comprehensible input is the necessary and sufficient condition. It is also the basic motivation of second language acquisition. Learners can enter the level of $i+1$ according to the natural acquisition order by understanding the language input slightly higher than the learners' level, i.e. the language input at $i+1$ level.

Michael Long's "Interaction Hypothesis" is an extension of this Input Hypothesis. He believes that it is not enough to examine only one-way language input, and attention should be paid to the interaction process between native speakers and learners. During the interaction, the language input will be adjusted in language form, discourse structure and function. These interactions between native speakers and non-native speakers (i.e. semantic negotiation) can generate a large number of comprehensible inputs. These adjustments make the inputs easier to understand and more conducive to language acquisition. In 1996, he revised the Interactive Hypothesis to explain the influence on second language acquisition from both internal and external factors, emphasizing the interface function of "attention" between interactive environment and language acquisition.

Swain's language output hypothesis holds that the influence of language input is limited and only language output can really promote the development of learners' language expression ability. To sum up, language output has the following four functions: (1) Output can attract learners' attention to language problems (noticing/triggering). (2) The output can help the learners to carry out semantic and structural hypothesis testing (hypothesis-testing) of the target language. (3) Output has metalanguage function, which can promote learners to reflect and analyze, control and internalize language knowledge. (4) Output can promote learners' target language expression automation and improve their fluency [1].

2.2. Literature Review

2.2.1. Theoretical research

In the past 20 years, there have been many researches on the theories of language input, interaction and output in China. On the one hand, it is to sort out and introduce the theoretical development in foreign countries, and some scholars also put forward teaching design or theoretical guidance for English teaching in our country. For example, Lu Renshun reviewed the teaching practice of the Output Hypothesis in terms of speaking and writing skills in English teaching in China, and gave suggestions on foreign language teaching reform based on the Output Hypothesis [2]. Wen Xiaohong explored the relationship between language input and output to design interactive classroom activities in Chinese teaching [3]. Li Luliang puts forward the enlightenment to college English teaching from three aspects: input, output and emotion filtering [4].

Chinese scholars also designed experiments under the guidance of input, interaction and output hypotheses, which proved the effectiveness of some relevant theories in second language acquisition. For example, Gu Weiqin conducted a comparative experimental study on the effects of input adjustment and interaction adjustment in foreign language teaching classes, which proved that both adjustments can promote learners' understanding [5]. Hong Rui conducted an experimental study on output and repetition in second language acquisition, and found that poster interpretation task is beneficial to improving learners' overall language proficiency, which proves that output and repetition can promote language acquisition [6]. Fu Peixuan and Wang Jianqin discussed the different effects of different self-language control measures on oral fluency through regression

analysis. It is pointed out that language testing cannot be static and correct output does not mean higher development ability. It is proved that self-regulation of language contributes to the long-term development of learners' fluency [7].

On the other hand, some scholars have raised some theoretical problems or created new hypotheses on the basis of predecessors, which has promoted the theoretical development of the hypothesis of language input and interaction. Li Hong believes that in Swain's output hypothesis, attention is "forced" to be allocated to both linguistic meaning and linguistic form, which may result in learners not having sufficient cognitive resources to internalize and process linguistic knowledge [8]. Deng Lianjian and Yang Liexiang put forward the "intake" hypothesis, and analyzed the factors affecting absorption, the ways and processes of absorption. This hypothesis emphasizes the learner's dominant position in second language acquisition [9]. Gai Shuhua puts forward the "Language Matching Input Hypothesis" in foreign language learning, which holds that language input should match the cognitive characteristics of learners (especially children's foreign language learners) and develop simultaneously with their psychological level, instead of laying particular stress on creating "i+1" input beyond the existing level [10]. Wen Qiufang proposes output-driven hypothesis for English professional skills reform [11]. In 2013, the author supplemented the curriculum framework of the hypothesis from a teaching perspective [12]. In 2014, it was supplemented with the "input-driven-output facilitation hypothesis", which clearly defines the relationship between input and output. In 2015, the hypothesis was renewed and expanded, and was formally named as "production-oriented approach" (POA) [13]. Wang Lisong and Zhao Yifan put forward some suggestions on the reform of college English teaching based on the input-output facilitation hypothesis [14]. Based on this hypothesis, Shen Yunhua, LawrenceJunZhang and Pan Haiying conducted a survey on graduate students' English demand for sub-disciplines and sub-skills. There are also many research results on subject English, senior high school English and basic English under the guidance of this hypothesis [15].

2.2.2. Application research

In the aspect of applied research, the hypothesis of language input and interaction is mainly applied to classroom teaching model design, textbook design, language testing, vocabulary acquisition, etc.

Based on Krashen's Input Hypothesis, Jiang Suqin carried out the reform of college English curriculum in multimedia-assisted listening teaching. Through listening tests and questionnaires, it is proved that multimedia-assisted English listening teaching can provide more comprehensible input, reduce the emotional filter barrier, and promote the improvement of listening ability more effectively than the traditional model, thus promoting second language acquisition [16].

Nie Dan applies the theory of comprehensible input and interaction to interview-type oral test, which helps oral test designers and examiners to design input words, assess input difficulty, identify input obstacles, and master various input adjustment methods, thus improving the efficiency and effect of oral test [17].

Li Lin and Zheng Yuqi discussed the application of input and output hypothesis in the development of foreign language teaching materials from both macro and micro perspectives. The study is based on Comprehensive English Course, which provides a large amount of sufficient input materials from a macro perspective and a comprehensible input through the "activate known" preparatory segment. It also provides cultural input for learners through a large number of linguistic contents containing cultural connotations and value orientations. It emphasizes on two-way output of semantic negotiation and improves the preparation and quality of students' output through the pre-preparation link. From the microcosmic point of view, the author discusses the design of the input and output hypothesis in the four skills of listening, speaking, reading and writing [18].

Jiang Rong and Andy respectively studied the acquisition of Chinese vocabulary by non-Chinese cultural circle learners of second language acquisition and the acquisition of Chinese modal verbs by native English speakers based on the theory of interaction [19-20].

Tang Shuhua and Wen Bing applied the interactive model of language input and output to the class-based teaching of college English and designed an operational model. Through quantitative analysis, the results show that students' satisfaction with class-based teaching, students' overall CET-4 scores and writing level, and students' participation in oral class are improved [21].

Jin Honggang explained the role of effective output[1] in second language acquisition and teaching, and proposed five teaching application principles related to effective output. They are prefabricated chunks[2] principle, language expression framework[3] principle, language negotiation principle, extended output principle and task planning and repetition principle [22].

3. Introduction to Teaching

3.1. Teaching design

The teaching object in this study is a senior one student of Thailand International School. Because of the all-English teaching in the school, the student can communicate smoothly in English, and the student's Chinese level is elementary. The Chinese teacher is a novice who takes Chinese as her mother tongue and lives in China. The HSK course is conducted online.

This lesson is divided into six parts: warm-up, vocabulary, text, grammar, application and practice. The three links of vocabulary, text and grammar are integrated and repeated in turn through four dialogues. Because each dialogue involves only about 2-6 words, the vocabulary teaching is very brief. After reading, the teacher and the student quickly enter the dialogue learning. They learn the text by listening but not looking-retelling after listening-answering questions-reading the text-rewriting the text-reciting after reading. Each dialogue requires the student to practice more than ten times. After the student is fully familiar with the text, the teacher explains the language points involved in the dialogue in the form of "formula+example" sentences, and asks the student to make sentences. This is the main part of the course. In the practice session, listening and reading exercises are carried out using the matching exercise books. At the same time, the course also includes dictation before class and reading and writing homework after class.

3.2. Teaching Observation

Taking lesson 14 of HSK2 as an example, the course duration is approximately 2.5h hours and the course type is new. This observation was transcribed (11725 words in total) and presented in the form of a scale.

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[1] In order to acquire a second language, learners need to rely on some external "driving forces" to urge second language learners to use challenging language forms for expression, i.e. more accurate, more complex and more appropriate expression outputs beyond the current language level. This is also called "pushed output". Jin (2004) first translated this term into "effective output" in Chinese.

[2] A lexical chunk is a combination sequence of words and meanings, which can appear in continuous or discontinuous combinations. Chunks are not randomly generated expressions according to grammatical rules, but are prefabricated language sequences that are stored in the brain's memory system in advance and extracted as a whole during use. (Wray,2000; 445)

[3] The so-called language framework refers to the daily conversation, the speaker's language is often expressed using the 'saving principle', will automatically use the dialogue party discourse structure or vocabulary collocation framework or similar structure for expression. (Jin Honggang 2017)

Table 1: Teacher Input and Feedback.

				Number of sentences	Percentage
Teacher's language	Input language selection	Chineses		236	54%
		English		123	28.15%
		Intersection		78	17.85%
		Total		437	100%
	Teacher's questions	Demonstrative		14	34.15%
		Reference		27	65.85%
		Total		41	100%
	Teacher' feedback mode	Comment	Praise	3	2%
			Criticize	0	0
		Repetition		70	38%
		Rephrasing		3	2%
		Translation		29	16%
		Triggering		31	17%
		Direct correction		15	8%
		Metalanguage feedback		31	17%
		Total		182	100%

According to the scale, the number of Chinese sentences in the class is 236, accounting for 54%, and Chinese is the most used language. At the same time, as the teaching object is a beginner of Chinese and her English level is good, the proportion of cross-use of Chinese and English plus the use of English alone accounts for nearly 50% of the total in the languages used by the teacher. Among them, the number of English sentences is 123, accounting for 28.15%. The teacher mostly uses pure English sentences to express instructions. However, the sentences that cross between Chinese and English are mainly used to describe and explain a certain word or grammatical point.

Display questions refer to questions for which the teacher knows the answer, and referential questions refer to questions for which the teacher does not know the answer. (Long & Sato 1983, Brock 1986, Nunan 1987) Generally speaking, the teacher asks less questions in this lesson. In the analysis material, only 14 sentences are display questions. By contrast, there are more referential questions, nearly twice as many as display questions.

In the teacher's feedback, there are few rephrasing and comments, only used three times respectively. The most frequently used form of feedback is repetition. Repetition can be the repetition of the teacher' own words or the repetition of student's words. It can make the student hear and understand each other's words more clearly and attract student's attention [23].

The second focus points are triggering, metalanguage feedback and translation. When the student's thinking is stagnant and their language is blocked, the teacher will use examples and questions to arouse the student's thinking and promote them to speak.

Metalanguage feedback is a form of feedback that provides critical information about whether a student's discourse structure is correct without explicitly providing the correct form [24]. In this

material, it may often manifest that after the student makes mistakes, the teacher usually explains the correct grammar contained in the sentence or answers the student's questions with "fine", "yes" and "no problem".

The teacher uses translation when it involves abstract and super-basic vocabulary and grammar, or when the student has never understood it no matter what feedback method has been used. In case of a long pause or a single pronunciation error, the teacher will use direct correction to give the correct statement directly.

Table 2: Student Output.

		Number of sentences	Percentage
Chinese		296	78.72%
English		35	9.31%
Intersection		45	11.97%
Total		376	100%
Correct (Chinese only)		263	88.85%
Error (Chinese only)		33	11.15%
Total		296	100%
Auxiliary output mode selection	Inquiry	36	19.15%
	Repetition	46	24.47%
	Pause	72	38.3%
	Abandonment	12	6.38%
	Parenthesis	22	11.7%
	Total	188	100%

The student outputs the most Chinese, accounting for 78.72%. However, a large part of the content is reading or retelling the text. As in the primary stage, it is relatively rare for the student to truly express complete meaning in complete Chinese sentences. She is prone to be in stagnation and make grammatical errors. It is then easy to ask the teacher questions. She often uses sentence patterns such as "Can I say like……", thus becoming a cross-expression between Chinese and English. Pure English sentences are usually used to express one's incomprehension or to talk about a topic that one cannot describe with the vocabulary one has learned. For example, "I don't know", for example, when talking about the topic of whose Chinese songs you have heard, the student said, "Eric, and a new space bar, and then Chou."

88.85% of the sentences in which the student completely uses Chinese are correct, which indicates that the student is very cautious about speaking Chinese and therefore the correct rate is high. At the same time, the problem is that the expression is not smooth and the student often pauses and repeats. Pauses and repetitions are also the most frequently used auxiliary ways in student's output, with 72 sentences and 46 sentences used respectively. For the uncertain places, 36 questions were asked by the student to the teacher, which once again shows that the student is very cautious in speaking Chinese and the two data can be mutually verified.

The student often uses some parenthesis, the most commonly used one is "no", which is a symbol of student's pause in thinking and tendency to self-correct. "no" accounts for 12 of the 22 parenthesis, which has become student's oral habit and should be corrected.

3.3. Interview with Student

According to the first two tables, the student is interviewed for teacher's language input and student's language output. The interview results are as follows.

Table 3: The interview results.

1. Which teacher language do you prefer?	About half in English and half in Chinese
2. Which links do you prefer the teacher to use Chinese?	Warm-up and application (dialogue with the teacher)
3. Which links do you prefer the teacher to use English/Chinese-English cross-links?	Vocabulary learning and application
4. Do you prefer the teacher to ask you more questions or give instructions?	Nothing is unacceptable
5.Do you want the teacher to ask you more open questions?	Very inclined.
6. Do you want the teacher to praise you in class?	I hope to be praised very much
7.Do you mind the teacher criticizing you in class?	Hoping for criticism
8. When you are confused, how do you prefer the teacher to give you feedback?	Repeat some of the student's answers and translations
9. What kind of feedback do you like best?	Translation > repetition > others
10. Do you prefer to say more by yourself or by the teacher in class?	Each teacher and each student is equally divided
11. When you encounter obstacles in expression, which do you prefer?	Ask the teacher > stop > repeat
12. Do you want to be the topic leader in class?	Not hope
13. Do you want the classroom to focus on teacher's explanation or interactive exercises?	Interactive exercises
14. What would you prefer to learn from the class? (examination ability/communication ability)	Both
15. What links do you want the teacher to add/remove from the classroom?	It is hoped that at the end of the class, the student will be assessed in various aspects (grammar, spoken language, vocabulary) to help her improve in these aspects
16. Do you want to learn more about Chinese culture in class?	Yes

According to the results, the teacher also gave supplementary questions to the student. The whole interview results can be summarized as follows.

First, the student expects to use more Chinese for communication, so she attaches importance to dialogue with her teacher. She thinks that by this way, she can easily know how to speak Chinese, that is, to make oral communication with others. In addition, the student thinks that proper use of English in class can help her solve her confusion in language communication quickly.

Second, the student hopes to improve her ability to think actively and independently in class, internalize the language structure she has learned and output it. Through interviews, it can be seen that the student tends to answer open questions, hopes to have interactive exercises, and hopes that teacher's explanations will keep a balance with student's feedback. When the student encountered difficulties in expression, she don't want the teacher to give hints and answers directly.

Third, the student has a positive learning attitude. This shows that the student hopes to be praised and criticized. And at the same time, she also hopes to increase the evaluation links in vocabulary, grammar and spoken language, so as to help her know knowledge loopholes and improve them.

Fourth, the student doesn't want to be the leader of classroom topics, which may be because she is still a primary Chinese learner and doesn't have this ability.

Fifth, the student wants to know more about Chinese culture in the classroom, which is related to the purpose of the student studying Chinese to come to China for university.

3.4. Teaching Reflection

In terms of teacher's language input, as student's Chinese proficiency improves, the teacher should gradually reduce the use of other languages in the class and gradually replace some mandatory statements with Chinese, such as "read by yourself", "listen carefully", etc. At the same time, Swain's Output Hypothesis holds that referential questions are helpful to promote student's language output and thus language acquisition. Therefore, the teacher should design more referential questions and reduce declarative instructions and requirements. By asking the student questions, sometimes even intentionally, the student is encouraged to take the initiative to output and becomes masters and promoters of classroom topics.

In the interaction between the teacher and the student, the problems reflected in the sentences in which the student makes mistakes are mostly related to grammar, which are manifested as inappropriate word order and missing words. For example, "我一次喝咖啡。"(I drink coffee once.) In fact, what she wants to express is "我喝过一次咖啡。"(I had a cup of coffee once.) " "见你姐姐。"(meeting your sister.) is actually "我见过你姐姐。" （I met your sister.）, which indicates that the student does not have a good grasp of grammar. Therefore, when explaining grammar in the future, the teacher should show more examples, conduct more interactive exercises with the student, and provide more opportunities for semantic negotiation. The use of multimedia means to enhance perceptual memory, often arrange review after class, rather than always descriptive explanation, summary statement.

For the student's output, the teacher can design more interesting game links, enrich the classroom form, and promote the student's active output, instead of reading the text repeatedly and dully. The purpose is to speak around the real context in real life and to emphasize this concept to the student. Because in the teaching observation, I found that the student often says some sentences that are inconsistent with her own real life in order to imitate the correct grammatical form when making sentences.

"我没喝过牛奶。" （I have never drunk milk.）
"我去过一次学校。"(I went to school once.)
"我没吃过饭。"(I haven't eaten.)

These sentences do not conform to reality if they are out of a certain context. The purpose of language learning is communication. The teacher must enable the student to master the ability to

communicate with others in the target language. Therefore, dialogue exercises in class should focus on real topics in real life, so that the student can use them directly in class. For example, when learning "Guo", the teacher and the student talked about topics about Chinese songs. In order to promote student's output, the teacher should have enough patience and give the student confidence to believe that she can output correctly, so that the student can speak freely in class.

According to the interviews with the student, the teacher should also add assessment links and cultural presentations. The assessment can help the student identify weaknesses and make up for them. For example, if the student's grammar knowledge is found to be poor through interactive exercises, the teacher should explain it again, increase exercises and repeat the training. Gradually increasing the introduction of some knowledge of Chinese culture can enrich the classroom, enhance student's interest in learning. And at the same time, it can enable the student to have some understanding of China, which will pave the way for future Chinese life.

4. Teaching experiment

4.1. Teaching Design

Based on the hypothesis of language input and interaction, combined with the above teaching reflections, the teacher has improved the teaching design and selected the fifth lesson of HSK standard course 3 for teaching.

In the new teaching design, a warm-up session is added before each text. Two are "have a guess" to guide the student to know the common sayings. In this lesson, it is "body is the capital of revolution" and "when medicine is available, the disease is eliminated". And the other two are for reviewing the vocabulary involved in the previous text.

In the vocabulary learning process, a picture display is added before the vocabulary display to help the student increase perceptual memory, and a Chinese character-pinyin-word meaning connection test is added after vocabulary learning.

In the process of learning the text, the student and her teacher play different roles respectively and then change the role with each other. They use the new structures and vocabulary contained in the text to form a new dialogue. This provides more opportunities for teacher-student interaction (semantic negotiation).

In the grammar study link, the teacher reviews language spots including the usage of "hears" and the discrimination between "不用（does not need）" and "不要（does not want）" in this lesson. In the new grammar teaching, the teacher first shows the pictures and other words needed to make the sentence, and then guides the student to make a sentence with this grammar structure. The next step is to practice three times and then explain. For example, when explaining the change of the modal particle "了", she first shows two pictures of snow and spring, then gives the related words "上个月(last month)", "现在(now)", "天气（weather）", "很冷(very cold)", "不冷(not cold)" and "了(have done)", and guides the student to say "上个月天气很冷，现在不冷了。(last month the weather was very cold, now it is not cold.)" It can help the student know the function of "了(have done)" from it. After the formal explanation, the student also strengthen exercises, choosing the right words to fill in the blanks and making sentences (pictures are provided but words are not provided). After the two new language points of the modal particle "了(have done)" and "越来越 (increasingly)", an application link is added, which describes your changed habits by asking each other questions and describes the real changes by using "越来越(increasingly)" respectively. These additions aim to guide the student to use grammar knowledge for active thinking and effective output. In this process, the student needs more thinking and output, especially to describe according to her own actual life, so that she has more control over the topic and has higher enthusiasm and

participation. The improvement of this link also makes the teaching smoother and the teaching atmosphere better.

According to the interview, after all the texts have been learned, a review section has been added to use the newly learned language points and vocabulary exercises. The purpose is to help the student check whether there are any knowledge gaps in this lesson and to fill them. The cultural part of this lesson introduces some classic Chinese traditional sports, such as diabolo shaking, kite flying, tai chi, etc. The student also followed the video with the teacher to do eight pieces of brocade which can strengthen the body in the traditional Chinese sports, so that the student can participate in the traditional Chinese sports and feel the fun. It effectively increases the interest and culture of the classroom.

4.2. Classroom Observation

According to the first two tables, a total of 19925 words were transcribed for the improved teaching. The results are as follows:

Table 4: New Teacher Inputs and Feedback.

				Number of sentences	Percentage
Teacher's language	Input language selection	Chineses		476	67.23%
		English		88	12.43%
		Intersection		144	20.34%
		Total		708	100%
	Teacher's questions	Demonstrative		59	53.68%
		Reference		53	47.32%
		Total		112	100%
	Teacher' feedback mode	Comment	Praise	15	4.16%
			Criticize	3	0.83%
		Repetition		113	31.3%
		Rephrasing		17	4.71%
		Translation		71	19.67%
		Triggering		54	14.96%
		Direct correction		57	15.79%
		Metalanguage feedback		31	8.69%
		Total		361	100%

Judging from teacher's language input: from 437 sentences to 708 sentences, the total input increased by about 62%, with a large increase. At the same time, the input of Chinese increased by 240 sentences, more than twice of the original input, indicating that through the improvement, the teacher has provided more sufficient input of the target language. On the basis of the increase in curriculum content, the number of English input sentences decreased slightly, from 123 sentences to

88 sentences, indicating that according to the above teaching reflection, the teacher deliberately reduced the use of other languages in the new teaching. In order to solve the problem of understanding caused by the decrease in English, the teacher has increased the use of cross-sentence between Chinese and English, with an increase of about 84.6%.

The number of teacher's questions has increased by nearly three times. In teaching, the teacher intentionally guides the student to learn by asking questions, and the number of display questions has increased from 14 to 59. The number of referential questions has nearly doubled. The teacher should pay attention to digging more places in the curriculum content where referential questions can be designed, so as to promote the student to combine what she has learned in class with her own actual life experience for output.

The use of teacher feedback has nearly tripled. On the whole, this is because the new teaching design adds many links that require the student to output more. Errors in student's output lead to more semantic negotiation. In the process, teacher's feedback will inevitably increase.
According to the results of the interviews with the student, the teacher intentionally added praise to the student in class, such as "very good!" "It"s OK" and "It's very good", etc. The figure increased from 3 to 15. Because the student wants to be criticized by the teacher, the teacher tries to criticize the discipline management of the student, such as "seriously".

Except for metalanguage feedback, the use of other feedback methods has increased to varying degrees. Repetition and translation, as the most desirable forms of feedback for the student, add 43 sentences and 42 sentences respectively. However, the proportion of repetition decreased slightly by 6.7%, which may be due to the limited role of repetition as a way to guide the student. It is only effective when the teacher think that the student knows the answer completely and can't remember it for a while. At the same time, the teacher has strengthened the use of rephrasing and direct correction. This is also because the demand for links has been "forced" to increase in forced output, and the student's incomprehension and errors have increased, requiring her teacher to rephrase or directly correct them.

Table 5: New Student Output.

		Number of sentences	Percentage
Chinese		359	63%
English		98	17%
Intersection		114	20%
Total		571	100%
Correct (Chinese only)		258	85%
Error (Chinese only)		47	15%
Total		305	100%
Auxiliary output mode selection	Inquiry	58	17.6%
	Repetition	45	13.7%
	Pause	117	35.6%
	Abandonment	46	14%
	Parenthesis	63	19.1%
	Total	329	100%

The total output of the student increased from 376 sentences to 571 sentences, an increase of 51.9%, which proves that the new teaching design has effectively promoted the output. Judging the student's Chinese sentences correctly and wrongly, the sentences without reading vocabulary increased slightly by 3.85% and the ratio of right and wrong decreased from 7.97 to 5.49. It is an acceptable phenomenon that the increase in errors is due to the student's more attempts.

Among the auxiliary methods, the total number increased from 188 to 329. Compared with the two data percentages, the student used various auxiliary methods more evenly. This time, the proportions of each method ranged from 13% to 36%, with a maximum difference of only 21.9%, which was 10.02% smaller than the difference between the previous maximum and minimum data.

Pause is still the most commonly used auxiliary output method by the student, accounting for 35.6%. The second is the parenthesis, accounting for 19.1%. The student often uses some "oh", "um" and "No" in long sentences. The growth of the parenthesis indicates that the student thinks more when talking.

The second is inquiry, abandonment and repetition. The proportions of the two inquiries are similar. As there are more inputs and more outputs required, the student has more doubts, indicating that she does not know and does not understand. Therefore, the number of times of abandonment to ask the teacher has increased, with the percentage increasing from 6.38% to 14%.
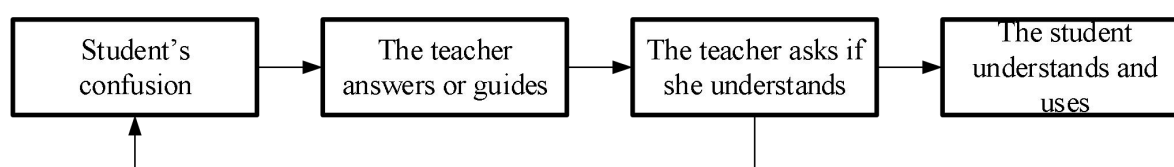

Figure 1: Teacher-student interaction process.

There are a lot of interactive adjustments and semantic negotiation in this process. According to the interactive hypothesis, comprehensible inputs, forced outputs and selective attention are also increased through semantic negotiation. The proportion of repetition decreased from 24.47% to 13.7%. However, in interviews with the student, she expressed that repetition is also one of the ways she tends to choose, which indicates that the student's choice of auxiliary output is not fixed and is complicated by various factors.

4.3. Teaching Reflection

After improvement, the instructional design under the guidance of the language input and output hypothesis strives to improve the quality from three aspects: teacher input, teacher-student interaction and student output. This is based on the hypothesis that comprehensible input, semantic negotiation and effective output can effectively promote second language acquisition and the development of second language learners' language ability.

According to the new scale, the total amount of teacher input increases. The new interview with the student show that her fully agrees that there are more comprehensible parts in the teacher's language. For the increased number of sentences that cross between Chinese and English, the student thinks that they can help her understand, which is not exclusive. Common sayings and cultural links provide cultural input. For this part, the student thinks that the teacher provides more interesting forms and information, and hope that in the future the teacher can also demonstrate the cultural content, or practice with the student, so as to attract her attention and make a deep impression.

With regard to teacher feedback, when the student is exposed to unknown language knowledge, she tends to ask the teacher to repeat the questions and give some relevant information to guide her

to acquire new language knowledge on her own initiative. When she encounters the language knowledge that she has learned but has forgotten, she hopes that the teacher can help her by correcting the questions and giving relevant information. When the student encounters obstacles in the process of using Chinese to express herself, whether she has doubts about individual words or structures or has no ideas at all, she is totally inclined to ask her teacher instead of other ways.

Therefore, the way of teacher's feedback should be changed according to the needs of the student in different links and different contents of teaching. If new characters and new words are directly taught to the student, the old characters and new words will guide the student to analyze themselves. Some words can be accurately expressed through translation, but some abstract words need examples. The teacher should fully estimate the student's learning level, estimate whether the student can answer the questions, and then give appropriate feedback. Instead of always making the student think or always telling them directly, both extremes will kill student's enthusiasm and initiative in thinking.

In the text and grammar links, new dialogues are formed with newly learned vocabulary and structures. The grammar activities for two, including the cultural exchange link at the end of the course, are all communication activities. Communication activities are typical of two-way output tasks, which contain necessary semantic negotiation. According to the interaction hypothesis, semantic negotiation can provide more comprehensible inputs, motivate the student to produce compulsory outputs, and attract learners' selective attention. So as to promote acquisition. In the new interview, the student also believe that dialogue, discussion and negotiation with her teacher are very positive and beneficial to second language acquisition.

In teaching, the teacher should understand the different causes of semantic negotiation and consciously use the principle of semantic negotiation to promote student's second language acquisition, such as focus locking and negotiation correction. The key point is also the doubtful point in the negotiation process, which is the problematic vocabulary or structure expressed by the student. The student is attracted to the doubtful point by locking. The focus of semantic negotiation is related to the vocabulary and language rules learned. The student can test and then reconstruct the hypothesis of the target language while talking. The teacher guide the student to retrain her and help her to transform declarative knowledge into procedural skills. The teacher can also use the strategy of "negotiation and correction" to provide correct expressions by means of rephrasing, implying that the student can correct errors in her own language expressions.

As the new teaching design requires the student to use more target language expressions and increase effective output, it brings about an increase in student's use of auxiliary methods. In turn, the growth in subsidiarity indicates an increase in effective output. Effective output plays three roles: It increases student's selective attention to language loopholes and differences in the process of using the target language. It also be a hypothesis test on the semantics and structure of the target language. It also has the meta-linguistic function of reflection, analysis and internalization of linguistic knowledge. These three functions promote the student's interlanguage to move towards the target language and the acquisition of the second language. This indicates that the new teaching design is more effective than the previous one in terms of student output.

However, the new interview also shows that student does not notice a significant increase in her Chinese output in class, and her attitude towards speaking Chinese in class is not entirely positive. Although the student thinks that making mistakes in the Chinese expressions in class can help her to find out the knowledge loopholes and make improvements, she will also produce awkward and embarrassed emotions. And from the perspective of classroom performance, although the student is willing to answer questions about the actual life (mostly referential questions), it is manifested by facial expressions of excitement and forward leaning. When it comes to real-life topics, due to limited vocabulary and grammatical problems, student often doesn't know how to organize

sentences and is used to answering them in English. The teacher should help to correct this habit, emphasize Chinese expressions over and over again, do not accept statements that are sure that the student can express themselves in Chinese but in English, and patiently guide and encourage student.

With regard to the frequent use of parenthesis, the student said she was fully aware of the problem and believed that she should accumulate more vocabulary, phrases and more exercises to improve her fluency in language output. Therefore, the student very much hopes that the teacher can provide some fixed phrases and sentence patterns. In the primary Chinese learning stage, the teacher should give the student appropriate prefabricated chunks and sentence-level language expression framework. The teacher often uses fixed sentence patterns to communicate with the student, demonstrate and guide the student to repeat and imitate the structures used by the teacher to answer questions in spoken language, emphasizing "how to ask and how to answer". It can help the student to save cognitive resources and improve the accuracy of language output.

5. Discussion

After two teaching observations and reflections, we can find that there are still some problems in the teaching under the guidance of the language input and interaction hypothesis. According to the hypothesis, comprehensible input, semantic negotiation and forced output can all promote learners' language acquisition in second language teaching, but in complicated teaching practice, learners' language acquisition is also affected by other factors.

First, the comprehensible input is not a necessary and sufficient condition to promote language acquisition. Although teachers provide a large number of comprehensible inputs, the subject of acquisition is the students. No matter how many comprehensible inputs the teacher provides, ultimately "it is the learner who controls the inputs." Students may or may not notice the teacher's input. Even the input noticed by the students may not be understood and then ignored, so the learners will only absorb part of the teacher's comprehensible input. Although the comprehensible input increases, it does not mean that the students absorb more.

Second, in semantic negotiation [25], students are likely to have insufficient cognitive resources allocation, which results in inefficient semantic negotiation and ineffective output. In the dialogue, students should not only pay attention to the understanding of semantics, but also to the processing of grammar. Comprehensible input is required to be at the "i+1 level", i.e. higher than the students' own level. Students are likely to have insufficient cognitive resources and cannot handle so much information well. At this time, the semantic negotiation does not make the input more comprehensible, but makes the students more confused and have negative psychology, which has the opposite effect of deviating from the target language learning. Students have not really completed the internalization of language knowledge, and the output is only repeating the teacher's words. Therefore, the output cannot play the role of hypothesis testing, metalanguage function and promoting the learner's target language expression automation.
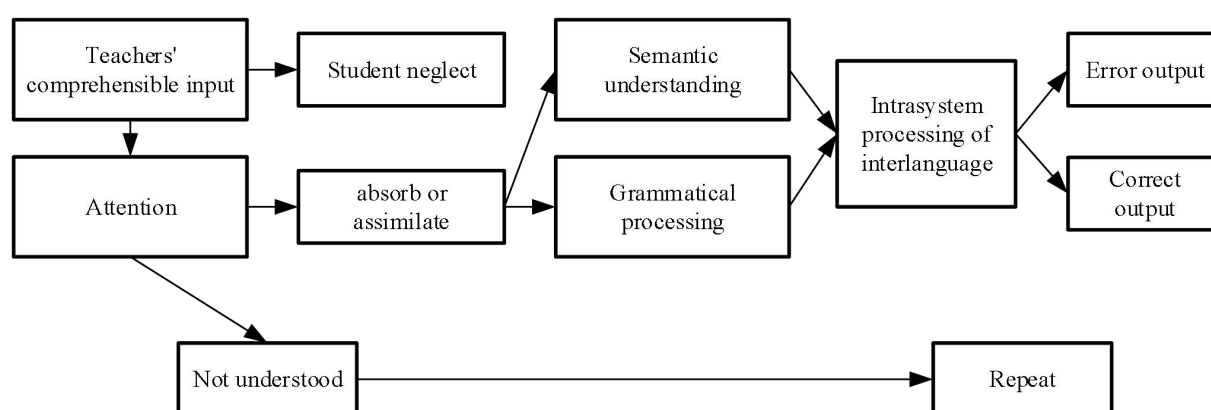
Figure 2: Process of semantic negotiation (initiated by students).

When designing ways and channels to provide comprehensible inputs, learners' psychological factors should be taken into account to promote their absorption of inputs. More description and research are needed on learners' psychological changes in the process of being provided with comprehensible input, semantic negotiation and forced output.

In view of the above two problems, we can improve from the following three aspects. First, teachers should encourage students to put forward questions and ask more questions deliberately to attract students' attention. At the same time, teachers should guide students to communicate patiently to avoid students' emotional filter barrier caused by poor understanding and target language expression. Second, due to the uncertainty and contingency of discourse in communication, teachers should anticipate the possible semantic negotiation, i.e. the places where students may have doubts, so as to control their own language accurately and avoid the disorder of information provided to students in the process of semantic negotiation. Third, teachers should emphasize that allowing students to imitate and use the language framework provided by the teaching materials can help students to save cognitive resources and improve the accuracy of grammatical processing of input content.

Finally, it also needs more research and teaching practice to make clear how to design a systematic and complete teaching method for HSK standard courses based on the theory of language input and interaction hypothesis and the teaching principles of providing comprehensible input, effective semantic negotiation and promoting students' effective output, and even to promote the innovation of teaching Chinese as a foreign language.

6.   Conclusion

Based on the hypothesis of language input and interaction, this paper studies the application of HSK standard classroom teaching. It selects Lesson 14 of HSK Standard Course 2 and Lesson 5 of HSK Standard Course 3 to observe and reflects on the primary teaching of HSK Standard Course twice without the guidance of this hypothesis and modified under the guidance of this hypothesis. The observation was carried out in the form of transcription (31,650 words in total), scale and interview. From the three dimensions of input, interaction and output, the data show that the new teaching promotes learners' Chinese acquisition. However, the sample size of this paper is limited, and more experiments are needed to prove each other. The teaching link designed in this paper is not perfect. There are still some problems to be solved in the teaching process. How to combine the hypothesis of language input and interaction to promote the innovation of the method of teaching Chinese as a foreign language is a problem that can be further discussed in the future.

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