The Effects of Micro-courses on Students’ Niches
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Abstract. To make a research of the effects of micro-courses on students’ niches, we set up “n+2”multiple assessment methods including not only mid-term quiz and final-term quiz but the classroom presentation, group activities, homework online and offline, effective questioning, unique insights and resource sharing to change students’ role and discourse power in college English class according to the characteristics of Micro-course and the current teaching problems. On the basis of ecological niche theory, students’ learning ability is calculated by the niche equation. The results show students’ niches are increased and the discourse power inclines to students by use of micro-courses in college English classes. It shows that micro-courses have good and positive effects on students’ niche and English learning.

1. Introduction
“Outline of the National Medium and Long Term Education Reform and Development Plan (2010-2020)” [1] clearly points out the following points: create new model of cultivating talents; follow the law of education; deepen the reform of teaching and education; form original teaching methods and explore various training mode to form a new phenomenon of talents and top-notch innovators coming out in succession. This put forward more difficult requirements for higher education. The modern education advocates the current learning model is supposed to transform from passive acceptable learning model into active discovery learning model. The Requirements of College English Curriculum (2007)[2] also clearly point out that one of the important signs of the successful reform is the formation of students’ personalized learning methods and the development of autonomous learning ability. College English is a public basic course and most of these college students learn English during their college life, so college English is basic, extensive and general. Unfortunately, most of these college teachers dominate their class. They speak too much while the students speak little during the class. Most students get accustomed to listen silently and making notes quietly which, to some extent, hinder the development of college students’ English learning ability.

In 21st century, with the development of information and internet technology, the current education is not limited to one traditional school, one teacher, one classroom and one mobile terminal but thousands of students can learn on different mobile terminals at the same time and in different places with the appearance of micro-course, MOOC, mobile class, etc. [3]. Especially in the field of education, micro-courses, to some extent, are able to improve the current college English teaching and learning problems.

2. Definition of Concepts
Micro video network course is shortened to micro-course. It uses micro teaching video as the main carrier to deliver some language points such as important points, difficult points, puzzling points test points or some teaching steps like learning activities, learning subjects, experiments, tasks. It permits many kinds of online learning ways [4]. As a new teaching material, it is a very useful and suitable supplement to traditional class. With the popularity of handheld mobile digital products and internet, micro-course makes the mobile learning, distance learning, online learning and ubiquitous learning more attractive and useful. In addition, micro-course has come into college English class gradually and offers a good platform for independent learning and innovation because of its clear learning objectives, flexible learning form, focusing on difficult and important points.
By using micro-course, students are more likely to take part in learning and sharing their ideas actively and voluntarily.

With the help of micro-course, college English teachers tend to return the learning initiative to the students. Thus the students can easily begin to look for the problems and are eager to acquire new knowledge. Meanwhile, they will try their best to solve the problems. Their interests, critical thinking and ability to solve problems will be cultivated and improved during the engaged process. At the same time, college English teachers can find out students’ problems and puzzles so that they can help students in time. By this way, students’ learning competence will be enhanced and the niche of students will be broadened, too.

Niche is a very important term in the field of ecology. It refers to the formed relative position and function during the interaction with the surrounded phenomenon in a fixed ecological system [5]. Niche includes two aspects: one is the state of biological cells including energy, accounts of occupying materials, adaptability, science and technology development level, etc., and the other is the potential of biological cells and it means the influence and dominance of biological units on the environment such as the rate of transformation of energy and matter, productivity, growth rate, the ability to occupy the new environment. The integration of these two aspects reflects the relative position and function of specific biological units in the ecosystem [6]. Student niche is the relative position and role of students in the process of interaction with the environment of English learning. The ecological niche of students has two aspects: state and potential. "State" refers to the students' learning state. It is a kind of historical accumulation. It is the accumulated actual competitiveness during the process of interaction between received education and learning process. "Potential" is the ability of students to affect the potential earning environment, which determines the future direction of students' learning ability.

Based on the ecological niche theory, the niche calculation of students' learning ability can be expressed by the following equation.

\[ N_i = \frac{S_i + A_iP_i}{\sum_j S_j + A_jP_j} \]

Among them \( i, j = 1, 2 \ldots n \). \( N_i \) is student I’s relative ecological niche of English learning ability. It also can be called Niche. \( S_i \) is student I’s the state of English learning ability. \( P_i \) refers to student I’s potential of English learning. \( S_j \) is student J’s state of English learning and \( P_j \) is student J’s potential of English learning. \( A_i \) and \( A_j \) are dimension conversion coefficient. The perfect combination of state and potential fully reflects the niche breadth of students' English learning ability, the niche size. Molecular term \( S_i + A_iP_i \) in the above equation can be regarded as student I’s absolute niche of English learning ability.

3. An Empirical Analysis on the State and Potential of Students’ Niche in English Learning Ability

In this study, the "n+2" multiple evaluation method is used to assess students. Students are the main body of evaluation. The third party actively participates in the process, and the evaluation model is featured by the dynamic characteristics of the overall evaluation model. The curriculum evaluation is for students and it puts emphasis on the process of students’ learning. Based on the observation of "change" and "improvement" in students' learning process, the teaching process constantly adjusts the content and progress of the teaching in real time in order to make the “n+2” multiple evaluation plays an active role in the backwash of student evaluation. The evaluation insists on value oriented. On the basis of respecting students' individual differences, students should be encouraged to increase their progress. At the same time, in the process of curriculum evaluation, it tries to guide the third party participate actively, grasp the needs of the students' ability of modern education timely and accurately to avoid the shortcomings of teaching contents and promote the perfection of curriculum. In the "n+2" multiple evaluation method, “n” includes classroom presentation, group activities, electronic online operation, effective questioning, unique insights, resource sharing, etc. which occupies 60% of the total score. “2” refers to the mid-term quiz and the
The focus of this evaluation transformed from summative evaluation to diversified formative assessment system. It becomes more focus on the process, participation and attitudes. It can cultivate a good learning habit, healthy feelings and scientific learning strategies which compromise a harmonious and multidimensional interactive classroom ecosystem to promote the students’ all-round development.

![Multiple teaching and learning assessment methods](image)

**Figure 1. "n+2" multiple evaluation methods and network teaching research community.**

In order to demonstrate the effects of micro-course on students’ English learning ability and their niche, 9 students were chosen randomly from 122 students. Their scores from two semesters were analyzed and according to the above equation the niche of each student appear. Evaluation results of the first semester of 2015-2016 academic years are the state measure of the ability of students to learn English. The term growth of academic achievement was taken as a measure of the potential of students’ English learning ability and taken 1A as the time scale, so the dimensional conversion coefficient is also 1A. The results are the following.

<table>
<thead>
<tr>
<th>Students</th>
<th>Evaluation results the first semester of 2015-2016 academic year</th>
<th>Evaluation results The term growth of academic achievement</th>
<th>The absolute niche of English learning</th>
<th>The niche of English learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>97.55</td>
<td>0.11</td>
<td>98.56</td>
<td>0.1086</td>
</tr>
<tr>
<td>2</td>
<td>98.39</td>
<td>0.54</td>
<td>99.35</td>
<td>0.1172</td>
</tr>
<tr>
<td>3</td>
<td>97.34</td>
<td>0.65</td>
<td>99.78</td>
<td>0.1191</td>
</tr>
<tr>
<td>4</td>
<td>97.45</td>
<td>0.59</td>
<td>99.56</td>
<td>0.1173</td>
</tr>
<tr>
<td>5</td>
<td>98.55</td>
<td>-0.19</td>
<td>97.53</td>
<td>0.1042</td>
</tr>
<tr>
<td>6</td>
<td>97.46</td>
<td>0.38</td>
<td>98.77</td>
<td>0.1166</td>
</tr>
<tr>
<td>7</td>
<td>98.39</td>
<td>-0.24</td>
<td>97.33</td>
<td>0.1045</td>
</tr>
<tr>
<td>8</td>
<td>97.48</td>
<td>-0.40</td>
<td>96.13</td>
<td>0.1031</td>
</tr>
<tr>
<td>9</td>
<td>97.85</td>
<td>0.13</td>
<td>98.75</td>
<td>0.1094</td>
</tr>
<tr>
<td>Total</td>
<td>880.46</td>
<td>1.57</td>
<td>885.76</td>
<td>1</td>
</tr>
</tbody>
</table>

**Figure 2. The niches of 9 students’ English learning ability.**

In a certain ecological system, the range of ecological niche of different classes is between 0 and 1, and the sum is 1. The greater is the niche breadth, the greater the value. This shows that the ecological function of the subjects in the system is greater. From the above table we can see the third student got 97.34 the first semester of 2015-2016 academic years and his score is lower than...
the score of the eighth and the seventh student, but the term growth of academic achievement of the third student is greater. The English learning niche of the third student exceeded the seventh and the eighth student. The English learning niche of the third student reached 0.1191 which became the maximum value of this study. In addition, the evaluation results of the fifth student in the first semester of 2015-2016 academic years is higher than the forth and the sixth student, but his term growth of academic achievement is negative, -0.19, so his niche is 0.1042 which is lower than the English learning niche of the fourth and the sixth student. The reasons of this change are the second, the forth and the sixth students actively and proactively identify problems, analyze problems and solve problems through micro-courses. They changed from the previous simple passive acceptance into active attack, from the past, too lazy to think and diligently taking notes to positive thinking and actively express their views and opinions. Micro-courses improve the teachers' right to speak and the role of teachers and students, so the English learning ability and effects of students are also enhanced.

Therefore, using niche theory to evaluate students' English learning ability is a very suitable way. It not only considers the current English learning state of students but also considers students’ potential development. It is more scientific and proper than considering only the state at a certain time.

4. Conclusion

According to niche theory, individuals in the same niche will compete with each other, and the adaptability ability will be improved. Meanwhile “symbiosis effect” shows the mutual communication and effects between individuals will stimulate the improvement of the whole group to a great extent [7].

By using micro-course, the role and the discourse power of teachers and students in College English class have been improved. Teachers change from instructor to learning partner, from instructor to communicator, from supervisor to stimulator, from actor to director. More importantly, students change from mechanical receivers to positive thinkers, from passive receivers to active questioners, from passive learners to active learners, from audience to actors. With the help of micro-course, “n+2” multiple teaching and learning assessment methods is built and carried out and network teaching and learning community is also set up to provide better second class.

Students begin to think diligently and are willing to learn. The network teaching and learning community becomes a perfect supplementary to the class which enable the students to enjoy their English learning conveniently and delightfully. Students' English learning ability and influence are improved.

5. Acknowledgment

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6. References


