THE IMPORTANCE OF ACADEMICS

Feedback from Students of Service-Learning Curriculum

Xiangling Liu and Muqiang Zheng

Abstract

This article asserts that academics should constitute the majority of the teaching team of university service-learning curriculum. Using appraisals for service-learning courses for eight recent years at Shantou University, we apply the methods of one-way variance analysis and correlation analysis to analyze the data. The results show that academics teaching courses closely related to their specialties are the most popular with the students, that the self-appraisal scores of students taking the courses taught by those academics are the highest in learning outcomes, and that the correlation between the scores of the students' appraisals of these teachers and the learning outcomes received by students is the highest.

The current study collects and analyzes data on some results of appraisals for service-learning courses during 2011–2018 at Shantou University. Two kinds of appraisal results are included: students' self-appraisals of their learning outcomes and the students' appraisals of teachers. In the students' appraisals of teachers, three kinds of teachers are appraised: academics teaching courses closely related to their specialties, academics teaching courses not related to their specialties, and non-academics (teachers selected from the university's student counselors, administrative staff, and teaching assistants). The results show that (a) in the students' appraisals of teachers, academics leading courses closely related to their specialties received the highest appraising scores; (b) in students' self-appraisals of their learning outcomes, the scores of students taking courses led by academics teaching topics closely related to their specialties are highest, showing significant statistical difference from those of students taking courses led by academics teaching topics not related to their specialties or non-academics. Our analysis also indicates that, for the courses led by academics acting as specialists, the correlation between the score of students' appraisals of teachers and the score of students' learning outcomes is the highest. Therefore, we argue that service-learning courses taught by academics acting as specialists are the most successful and that they should constitute the majority of service-learning courses offered by universities.

Background

Service-learning is a form of experiential education that consciously combines community needs with students' learning activities so that students and community agencies can achieve mutual benefit by working together. The term *service-learning* was coined by the Southern Regional Educational Board in 1967 (Zhou, 2004). According to Tang (2012), "In the past 20 years, at least 200 definitions have been put forward for Service-Learning, viewing it as experience, plan, teaching method, philosophy, and so on" (p. 163). In addition to being a type of experiential learning, it is also a philosophy and a teaching method. According to Kenworthy-U'Ren (2003), the key components of all service-learning definitions and projects, be they explicit or implicit in the course design, are the same: (a) a focus on real-world learning; (b) a course-based foundation; (c) reciprocity between the student and the community; and (d) carefully designed reflection.

In our view, the goals of service-learning are to encourage students to observe real-world problems and learn by designing solutions to these problems; to solve problems in communities by providing service; to gain experience in the community so as to raise the students' sense of social responsibility and enhance their ability to view and understand people from other social contexts; and, through constant reflection, to deepen their understanding and improve their ability to practically apply knowledge. Corresponding with these goals, service-learning curriculum has the following features: its objectives emphasize the development of students' sense of social responsibility; its contents stress the integration of community service and learning; its execution relies more on the cooperation between university and community; and its appraisal attaches greater importance to students' structured reflections on the services and courses.

Over half a century, service-learning has gradually become a global phenomenon of education. It has exerted obvious and positive influence on students' academic performance, development of personality and sociability, sense of civic responsibility, and awareness of professionalism (Zhang, 2007). As this educational philosophy or teaching method is disseminated globally, service-learning is beginning to be introduced to colleges and universities in mainland China. However, service-learning is far from being fully popularized in the country as a whole, and the development of service-learning curriculum has been quite slow. In addition to Shantou University, Beijing Normal University–Hong Kong Baptist University United International College, Nanjing University, Nankai University, Beijing Normal University, Sun Yat-sen University, Yunnan University, Zhuhai City Polytechnic, and China Youth University of Political Studies have each started their own experiments in service-learning courses. The educational benefits of the service-learning courses at these universities demonstrate that the courses enhance the effectiveness of learning and help students develop a sense of social responsibility and a spirit of service.

Within the colleges and universities offering service-learning courses, the composition of teaching teams can be categorized into three types: (a) in Nankai University, Nanjing University, Yunnan University, and China Youth University of Political Studies, academics constitute the majority of the teaching team of service-learning courses; (b) in Zhuhai City Polytechnic and Shantou University, the teaching teams are comprised of academics and non-academics (non-academics are mainly selected among student counselors); (c) in Beijing Nor-

mal University–Hong Kong Baptist University United International College, the teaching team is made up of teachers who are dedicated only to teaching service-learning classes.

An Overview of Shantou University's Service-Learning Curriculum

For nearly 10 years, Shantou University has been active in exploring how best to provide local service-learning opportunities. Compared with the programs at most universities in mainland China, the service-learning curriculum at Shantou University is older (established in 2010) and more developed and covers a larger proportion of the total number of students. Shantou University is the first in mainland China to make service-learning compulsory for all undergraduates. As the local service-learning curriculum is gradually taking shape, the Shantou has accumulated some experience in curriculum execution and management. Each service-learning course, worth one credit and requiring 48 hours, includes the following: on-site research, research workshop, project design, public service (32 hours), reflection and sharing, and course appraisal.

During 2010–2018, 292 courses were offered to 12,147 students. The services contained in the courses included helping disadvantaged groups (i.e., children with intellectual disabilities, visually disabled children, children with cerebral palsy, autistic children, left-behind children in rural areas,[1] children from poor families, children of migrant workers, girls in rural areas, the elderly in rehabilitation villages for leprous patients, and the elderly with dementia), providing educational assistance (i.e., helping elementary or middle school students to learn in school, providing life education, providing music education, disseminating outdoor first-aid skills, disseminating eye health knowledge, disseminating legal knowledge among the youth, giving lectures about financial knowledge, and helping impart classic traditional culture), carrying out environmental protection (i.e., water-resource protection, ocean-resource protection, and forest protection), offering medical service to poor areas, carrying out community service and reform, providing disaster relief service, and so on. The learning and services in each course are driven by and integrate real-world problems. Often, students are required to search independently for the knowledge they need. In this way, their learning and studying become well-targeted and practical. So far, our students have provided service for more than 300 communities and organizations in the Chaoshan region; the courses have become a bridge linking the university and community.

1. The "left-behind children in rural areas" refers to the children left behind in villages by their parents who go to work somewhere else far away. In order to earn higher income, many peasants in China leave their villages to work in richer urban areas for a long period of time each year, leaving their children in the custody of their relatives, usually the grandparents of the children. It is a typical phenomenon in the process of China's urbanization.

Objectives of the Curriculum

Among the 18 objectives of the university's overall goal for liberal education, 9 were chosen as objectives for service-learning curriculum: to nurture students' social and communal responsibility; to inspire a positive outlook on the value of life; to cultivate the virtues of tolerance, integrity, responsibility, and care; to promote understanding of social ethics; to nourish the spirit of being practical and pursuing truth; to equip students with principles such as responsible engagement and honoring contracts and other professional ethics and codes specific to students' majors; to raise students' awareness of the environment and help them form the habit of protecting it; to activate their capability of leadership and deployment; and to enhance students' ability to analyze and solve problems by utilizing diverse modes of thinking.

Contents of the Courses

Each course, worth one credit, includes 16 hours of in-class study and 32 hours of public service. The in-class study consists of learning common and thematic modules: the former includes principles of service-learning, designing public service projects, methods of social investigation, leadership development and team-building, and methods of handling emergencies, while those of the latter are specific to the public service projects of the courses. Students work in teams to design and carry out their projects. The public service projects include profession-oriented themes, such as providing medical service to poor areas, teaching, and providing legal aid; humanity-oriented themes, such as helping disabled people, the elderly, women, and children; and social value–oriented themes, such as environmental protection and imparting cultural heritage. Under the guidance of teachers, students reflect at each stage of the courses. At the end of the courses, students are required to orally present their gains and thoughts and submit written reports based on their reflections. In order to maintain cooperation and the relationship between Shantou University and participating community agencies, service bases are set up at those agencies.

The Teaching Team

The service-learning courses are managed by the Educational Administration Department at Shantou University. Forty-three percent of the teaching teams for the courses are led by academics, supplemented by student counselors and administrative staff. These teams usually have three to five collaborators, with the academics being responsible for instructional design and lecturing specialized knowledge, student counselors helping build up service teams, and administrative staff providing logistic and financial support. The other 57% of teaching teams are made up of student counselors and administrative staff only, with no academic collaborators. Before leading a course, each teacher must complete special training. For some courses, teaching assistants are assigned to provide support for teaching and public service.

The Appraisal System

Shantou University implements a four-part appraisal system for the courses: students' self-appraisals of the learning outcomes; teachers' appraisals of students; students' appraisals of teachers; and appraisals of the satisfaction of cooperative agencies. At the end of each term, the appraisals are carried out using the same rubrics across the courses, under the coordination of the Educational Administration Department, and before the students can check their grades to avoid bias for the teachers. The results of students' self-appraisals and their appraisals of teachers are sent to the teachers of each course for reference.

As early as 2009, when designing the service-learning curriculum, Shantou University projected having teaching teams comprised mainly of academics and supplemented by student counselors, administrative staff, and teaching assistants. However, in reality, in the following nine years of curriculum execution, the opposite occurred. The majority of teachers on the teams are non-academics. Academics are less than 20% of the teams because they have not been quite as interested in service-learning courses. Teachers play a crucial role in connecting students with an educational system; all courses or reforms affect students through teachers. Therefore, having effective teachers is an important part of education (Medley, 1982). This study aims to analyze how having academics vs. non-academics lead teaching teams affects students' performance in service-learning courses at Shantou University.

The Significance of the Study

Theoretical Significance

First, after studying the related literature, we found that the implementation of Shantou University's service-learning curriculum has some traits peculiar to China and the university. While most service-learning curricula in foreign countries are led by academics, the composition of the teaching teams for the curriculum at Shantou University is quite different. Hence, the current study will present a distinctive teaching structure with strong Chinese characteristics. Second, while service-learning curriculum is introduced to only a few universities in mainland China (less than 10), Shantou University is the only one that treats such curriculum as a compulsory part of higher education, making the university a pioneer in the field of local service-learning. Therefore, by exploring the effectiveness of the education provided by the teachers and how to optimize the structure of the teaching team, we offer something valuable for the future reference of other universities.

Practical Significance

In the nine years Shantou University has been implementing the service-learning curriculum, Shantou Uni-

versity has always tried to motivate academics to participate in the curriculum but has achieved very little improvement in this respect. Neither mandatory measures nor incentives increased academics' willingness to engage. Consequently, for many years, the majority of the teaching teams were comprised of student counselors, administrative staff, and teaching assistants, with fewer academics. As the service-learning curriculum has positively affected Shantou University's goal of developing students' sense of social responsibility, awareness of teamwork, and leadership, the idea and value of the program has been well accepted by teachers and students.

However, Chen's survey (2015) shows that some courses have the following problems: "First, during the teaching, some teachers are unable to determine precisely when guidance should be provided, and how far should the guidance go. Second, for many teachers, there is obvious conflict between their perception and behavior: on the one hand, they recognize the necessity, the role, and the value of the Service-Learning curriculum; on the other hand, the degree of their involvement in the curriculum is quite low, failing to provide due guidance to students" (p. 1). As a result, the overall quality and effect of the curriculum is compromised. Therefore, the key question for the present study is whether there is any difference in educational effectiveness between service-learning courses guided by academics and those by non-academics (i.e., student counselors, administrative staff, and teaching assistants). Because students are the verifiers as well as beneficiaries of the effectiveness of the courses, we start by collecting and analyzing the data from student appraisals.

Methods

Definitions

Academics in the present study refers to the members of the service-learning teaching team who are full-time teachers at Shantou University. *Non-academics* in the present study refers to those who are not full-time teachers but are selected to teach service-learning courses. These members include student counselors, administrative staff, and teaching assistants, most of whom hold a master's degree. Although the disciplines of these team members are quite diverse, they are less experienced in teaching. Among these members, student counselors assume the task of helping students to solve problems in all aspects of daily life—academic, personal, social, and career—and their roles are similar to "student success coaches." Most of them recently graduated with master's degrees from Shantou University, and they are not required to be from a specific discipline to teach a service-learning course.

The agent to execute *effective teaching* is an *effective teacher*, so an effective teacher is indispensable for the study of effective teaching. According to Yao (2004), effective teaching is that in which a teacher succeeds in starting, maintaining, and advancing students' learning and realizes the expected teaching results; it is teaching that is efficient, beneficial, and compliant with teaching law. Therefore, the expected learning outcomes constitute an important index for appraising the effectiveness of teaching. In this study, effectiveness of teaching

is assessed by analyzing the score of students' self-appraisals against the expected learning outcomes, and the effectiveness of a teacher is evaluated by examining the score of the students' appraisals of teachers.

Protocol and Methods

For the students' appraisals of teachers of service-learning courses, 10 indicators are set according to the major modules of the curriculum: in-class study accounts for 30% of the aggregate score, public service for 40%, and summary and sharing for 30%. The appraisal focuses on assessing the educational effect of a teacher's in-class teaching, ability to inspire students to think and reflect, guidance in student discussions for designing projects, example in public service, ability to handle an emergency, and response and feedback to student questions.

For students' self-appraisals of the learning outcomes, 27 indicators of expected learning outcomes are set according to the general educational goal of the curriculum, and such indicators are related to six aspects of service-learning: knowledge related to public welfare, awareness of quality, capacity to coordinate and organize, sociability, ability to research and solve problems, and adaptability to environment. Starting with the 2011 summer term, all service-learning courses have been appraised online. In order to examine the effectiveness of teaching service-learning curriculum, one-way variance analysis was conducted to check whether there was significant statistical difference in the scores of students' self-appraisals of the learning outcomes and students' appraisals of both academic and non-academic teachers of the courses. The academics analyzed consist of two types: academics teaching courses closely related to their specialties and academics teaching courses not related to their specialties (see Figure 1 below). Based on the analysis, we further analyzed the correlation between the scores of the students' appraisals of teachers and their self-appraisals of their learning outcomes for the courses taught respectively by the three types of teachers.

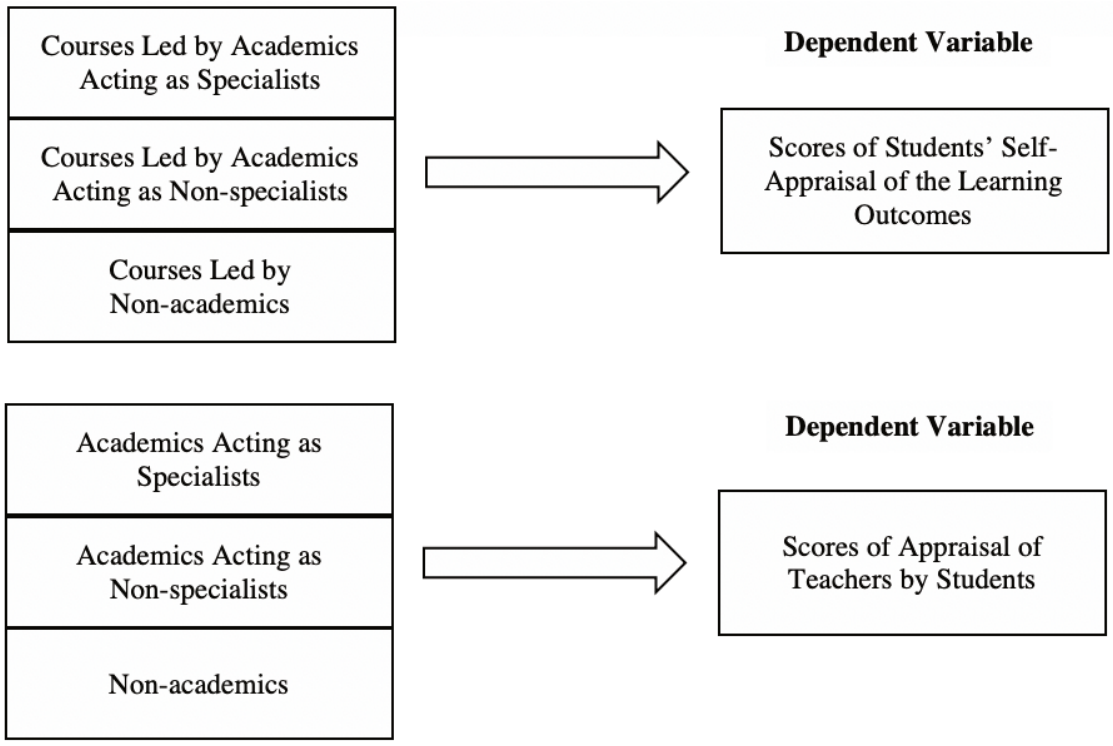

Figure 1. The variables in the one-way variance analysis.

Samples and Data

The teacher-student ratio in the courses was 1:8 to 1:10, so usually each course was assigned three to five teachers. Data are collected from the appraisal results for the service-learning courses taught during the period ranging from the 2011 summer term to the 2018 summer term (in total 21 terms are covered, as Shantou University has spring, summer, and fall terms each year). Among the 260 courses brought under our study, 111 were led by academics, accounting for 43% of the total number of service-learning courses. Among the 111 courses, 53 were led by academics acting as specialists, while 58 were led by academics acting as non-specialists.

Among the 912 teachers participating in the teaching and service for the 260 courses, 155 were academics, accounting for 17% of the total number, and 757 were non-academics, that is, teaching members selected among student counselors, administrative staff, or teaching assistants. Among the academics, 65 led courses whose contents were not related to their specialties, while 90 led courses whose contents were closely related to their specialties.

Results of the Study

Students' Self-Appraisals of the Learning Outcomes

For the service-learning courses during 2011–2018, the average score of students' self-appraisals of the learning outcomes is 92.71 (out of 100) (see Table 1). The results of one-way variance analysis on the scores of students' self-appraisals of the learning outcomes are shown in Table 2.

Table 1
A Comparison of the Average Scores of Students' Self-Appraisals of the Learning Outcomes for the Three Course Types and a Comparison on the Standard Deviations

Course type	*N*	*M*	*SD*
Led by academics acting as specialists	53	93.9300	2.42787
Led by academics acting as non-specialists	58	92.0203	2.51573
Led by non-academics	149	92.5485	2.58128

Table 2
The One-Way Variance Analysis of the Scores of Students' Self-Appraisals of the Learning Outcomes for the Three Types of Courses

Source	*Df*	*SS*	*MS*	*F*	*p*
Average scores of students' self-appraisals of the learning outcomes					
Inter-group	2	110.355	55.178	8.577	.000***
In-group	257	1653.390	6.433		
Total	259	1763.745			

*** $p < .01$

According to the results of the one-way variance analysis, there is significant statistical difference between the

scores of students' self-appraisals of the learning outcomes respectively for the three types of courses: $F(1, 257) = 8.577$, $p = 0.000$. Tables 1 and 2 show the average scores of students' self-appraisals of the learning outcomes for each course type: for courses led by academics acting as specialists, it is 93.93; for courses led by academics acting as non-specialists, 92.02; and for courses led by non-academics, 92.55. The results of post hoc analysis of one-way variance analysis indicate that there is significant statistical difference ($p < 0.01$, $d = 0.77$) between the scores of students' self-appraisals of the learning outcomes in courses led by academics acting as specialists and those acting as non-specialists. In addition, there is also significant statistical difference ($p < 0.01$, $d = 0.55$) between the scores of students' self-appraisals of the learning outcomes in courses led by academics acting as specialists and those led by non-academics.

That this to say, students believe that, among the three types of courses, the best in terms of educational effect are courses led by academics acting as specialists, then courses led by non-academics, and lastly courses led by academics acting as non-specialists. The effect size of the average scores of students' self-appraisals of the learning outcomes for courses led by academics acting as specialists and those acting as non-specialists is close to 0.8, indicating that the degree of difference in terms of educational effect between the two course types is close to "large." The results suggest that the advantage of academics is their specialties, and when they lead courses not related to their specialized field, the educational effect of the courses tends to be inferior even to those courses led by non-academics.

Appraisal of Teachers by Students

For the service-learning courses during 2011–2018, the average score of the students' appraisals of teachers is 93.37 (out of 100) (see Table 3). The results of one-way variance analysis on the average scores of the students' appraisals of teachers are shown in Table 4.

Table 3
A Comparison of the Average Scores of the Students' Appraisals of Teachers for the Three Teacher Types and a Comparison of the Standard Deviation

Teacher type	*N*	*M*	*SD*
Academics acting as specialists	90	94.8884	2.86044
Academics acting as non-specialists	65	92.2648	5.04613
Non-academics	757	93.2786	4.25028

Table 4
The One-Way Variance Analysis of the Scores of the Students' Appraisals of Teachers for the Three Teacher Types

Source	*Df*	*SS*	*MS*	*F*	*p*
The scores of the students' appraisals of teachers for the three teacher types					
Inter-group	2	293.215	146.608	8.321	.000***
In-group	909	16014.904	17.618		
Total	911	16308.119			

*** $p < 0.01$

According to the results of the one-way variance analysis, there is significant statistical difference between the scores of the students' appraisals of teachers respectively for the three teacher types: $F(1 \text{ , } 909) = 8.321$, $p = 0.000$. Tables 3 and 4 show the average score of the students' appraisals of teachers for each teacher type: for academics acting as specialists, it is 94.89; for academics acting as non-specialists, 92.26; and for non-academics, 93.37. The results of post hoc analysis of one-way variance analysis indicate that there is significant statistical difference ($p < 0.01$, $d = 0.66$) between the scores of the students' appraisals of teachers who are academics acting as specialists and those acting as non-specialists. In addition, there is also significant statistical difference ($p < 0.01$, $d = 0.45$) between the scores of the students' appraisals of teachers who are academics acting as specialists and teachers who are non-academics.

That this to say, students believe that, among the three types of teachers, the most effective are academics acting as specialists, then non-academics, and lastly academics acting as non-specialists. The effect size of the average scores of students' self-appraisals of their learning outcomes for academics acting as specialists and non-specialists is 0.66, indicating that the degree of difference in terms of educational effect between the two teacher types is "medium." The effect size of the average scores of students' self-appraisals of their learning outcomes for academics acting as specialists and non-academics is 0.45, indicating that the degree of difference in terms of education effect between the two types is close to "medium." These results suggest that the teacher type best accepted by students is academics acting as specialists, then non-academics, and lastly academics acting as non-specialists, respectively corresponding with the analysis results for the three course types.

Analysis of the Correlation Between Results

The analysis above shows that the results of the two parts highly correspond to each other. By calculating the average score of the students' appraisals of each teacher in each course, we obtained a total of 912 average scores and then conducted a normal distribution test for this set of average scores. Similarly, a set of average scores was obtained by calculating the average score of students' self-appraisals of the learning outcomes for each course to conduct a normal distribution test. Because one of the two sets is not normally distributed, we had to use Spearman's rank correlation coefficient to analyze the correlation between the results of students' self-appraisals of the learning outcomes and students' appraisals of teachers. The analysis shows a positive correlation between the two, $r(912) = 0.618$, $p < 0.01$, indicating that students who give a high score in the appraisal of teachers tend to also give a high score in their self-appraisal of the learning outcomes. According to the standard of Cohen (1988), the effect size is "medium" but close to "large." The square of Spearman's rank correlation coefficient (r^2) further shows that 38% of the scores of students' self-appraisals of the learning outcomes can be predicted by the corresponding scores of students' appraisals of teachers.

The correlation between the students' self-appraisals of their learning outcomes and their appraisals of each type of teacher was also analyzed. The results show that for academics acting as specialists, both the two sets of variable belong to a normal distribution, so the Pearson correlation coefficient was used to obtain the correlation, $r(90) = 0.733$, $p < 0.01$. For academics acting as non-specialists, both the two sets of variable belong to a normal distribution, so the Pearson correlation coefficient was used to obtain the correlation, $r(65) = 0.632$, $p < 0.01$. For non-academics, neither the two sets of variable belong to a normal distribution, so Spearman's rank correlation coefficient was used to obtain the correlation, $r(757) = 0.594$, $p < 0.01$. The descending order of the three correlation coefficients indicates that the correlation between students' gains and teaching is the highest for courses led by academics acting as specialists, the second highest for courses led by academics acting as non-specialists, and the lowest for courses led by non-academics.

Conclusions

Based on the above analysis, we can arrive at the following conclusions. First, the initial idea of academics making up the majority of the teaching team in Shantou University's service-learning curriculum is reasonable. But to ensure the effectiveness of the teaching by academics, it is better that they design and execute a course based on their own specialities. If they are required to engage in courses not related to their specialties, the effectiveness of the education will be compromised, and thus the learning outcomes expected by students cannot be achieved.

Second, after systematic training and sufficient practice, non-academics (student counselors, administrative staff, and teaching assistants) can also become effective teachers for service-learning courses. When there are fewer academics on the teaching team, non-academics can serve to support the service-learning curriculum.

Such composition of a teaching team for service-learning curriculum at Shantou University offers an example to other universities in mainland China.

Third, effective teachers are indispensable for effective teaching. The data collected from students' appraisals demonstrate that there is significant positive correlation between the effectiveness of teaching and students' gains in the courses, offering other evidence for the conclusion that the importance of teacher quality cannot be overemphasized. Compared with that by non-academics, the teaching by academics, whether they are teaching in their specialty or not, has a higher correlation with students' gains in the service-learning courses. Compared with that by academics acting as non-specialists, the teaching by academics acting as specialists has a higher correlation with students' gains in the courses.

Finally, among the three course types, courses led by academics acting as specialists yielded the best educational results, demonstrating that academics acting as specialists produce a greater effect on students' "learning" in service-learning. Although the insufficient number of academics may be the core of the problem compromising students' learning outcomes, better integrating the service-learning courses and the specialties of academics may be the key to enhance Shantou University's service-learning curriculum. In other words, the university should make great effort to raise the proportion of academics in the teaching team of service-learning curriculum and enable academics to teach courses closely related to their specialties so that the curriculum can be more effective in helping students develop their specialized skills and find directions for their future careers.

References

Chen, J. M. (2015). *A research on the current situation of carrying out Service-Learning curriculum: An example from Shantou University* (Master's thesis). Shantou University, Shantou, China.

Cohen, J. (1988). The effect size index: d. In *Statistical power analysis for the behavioral sciences* (2nd ed., pp. 20-26). Hillsdale, NJ: Lawrence Erlbaum Associates.

Kenworthy-U'Ren, A. (2003). Service-learning and negotiation: Engaging students in real-world projects that make a difference. *Negotiation Journal*, *19*(1), 51–63.

Medley, D. M. (1982). Teacher effectiveness. In H. E. Mitzel (Ed.), *Encyclopedia of educational research* (5th ed., Vol. 4, pp. 1894–1903). New York, NY: Free Press.

Tang, K. J., & Cai, Y. Q. (2012). *Civic education in American schools*. Beijing: China Social Sciences Press.

Yao, L. M. (2004). A preliminary discussion on the implications of effective teaching. *Modern University Education*, *5*, 10–13.

Zhang, H. (2007). On "service-learning." *Research in Educational Development*, *9*, 1–8.

Zhou, J. X. (2004). A survey of American service-learning theories. *Studies in Foreign Education, 4*, 14–18.

Authors

XIANGLING LIU is studying for a Doctor of Education degree in the College of Teaching Education, East China Normal University. She is assistant researcher and section chief in Shantou University's Educational Administration Department. She is in charge of the management of the University's service-learning curriculum. Her research interests are higher education and service-learning.

MUQIANG ZHENG is Professor, tutor of master program, department head, and Director of the Institute for Chinese Business Studies in the Business School of Shantou University. His research interests and teaching courses include applied economics and service-learning.