A Review on Higher Education of Belt and Road Initiative: Key Findings and Emerging Themes

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Abstract

Higher education is an important pillar of B&R, and as Chinese universities improve their global popularity, China is working hard to increase the level of higher education. In this paper, we provide a narrative synthesis of studies of China’s Belt and Road Initiative for higher education in mainland China (published 2015-2020). The review reveals five major emerging themes in the published literature: Higher education development in countries along the route; Higher education cooperation between countries; Internationalization of higher education; Higher education functions; Education of international students. This review provides an overall picture of the knowledge base on high education for BRI. This article makes specific suggestions for improving higher education under the Belt and Road Initiative. The authors highlight the need for more empirically solid research in mainland China.

Keywords: Belt and Road Initiative, higher education, higher education internationalization

1. Introduction

“The Belt and Road” (B&R) is the abbreviation of “Silk Road Economic Belt” and “21st Century Maritime Silk Road” (Renming net, 2018). In September and October 2013, it was issued by the Chinese state in accordance with the ownership of countries related to China. The dual use of appeals, with the help of regional partnerships and effective practices, borrowing historical symbols from ancient times and the will to develop forward, actively develop economic partnerships with countries along the route, and jointly create political trust, economic integration, and cultural reciprocity. Community of interests, community of destiny and community of responsibility. The chairman respectively put forward the cooperative proposal of building the “New Silk Road Economic Belt” and the “21st Century Maritime Silk Road”. March 28, 2015, “Promoting the Joint Construction of the Silk Road Economic Belt and the 21st Century Maritime Silk Road National Vision and Actions” (Xinhua agency, 2015; China government net, 2015).

After the opening of the "Belt and Road" economic zone, the number of contracted projects exceeded 3,000. In 2015, Chinese companies made direct investments in 49 countries related to the “Belt and Road” initiative, and the amount of investment increased by 18.2% year-on-year (Renming net, 2019). In 2015, China undertook US$17.83 billion in service outsourcing contracts from countries related to the “Belt and Road”, and the executed value was US$12.15 billion, representing a year-on-year increase of 42.6% and 23.45% respectively. At the end of June 2016, a total of 1,881 trains were opened for China-Europe freight trains, including 502 return trips, achieving a total import and export trade volume of US$17 billion (Xinhua net, 2017). As of January 30, 2021, China has signed 205 cooperation documents with 171 countries and international organizations to jointly build the “Belt and Road” (BR net, 2021).

President Xi Jinping proposed in 2013 the “Silk Road Economic Belt” and the “21st-Century Maritime Silk Road” which named China’s “Belt and Road Initiative”. This is a road of peace and friendship that strengthens all-round cooperation and exchanges among countries. It is a new platform for international development plans (Peters, 2019) and has quickly become the focus of attention in China and the rest of the world (Cheng, 2016).
According to Alicia and Xu (2016), the “Belt and Road Initiative” is undoubtedly the most important international blueprint that China has embarked on in recent years. Its purpose is to promote the economic development of the region covering Europe, Africa and Asia. Some official announcements indicate that this Initiative involves 63 countries, including 18 European countries, although there are no official documents on which countries to be include. Particularly relevant to Europe is that the road ends at the beginning of the European Union (EU). Most importantly, the huge trade between the EU and China represents 64% of the world’s population and 30% of global GDP (Alicia & Xu, 2016).

![Figure 1. The map of Chinese Belt and Road Initiative](image)


From national institutions to the provincial universities, all Chinese government agencies are working hard to participate in the “Belt and Road Initiative” (B&R). Almost all provinces have proposed their own “Belt and Road Initiative” plans to participate in this national project (Cai, 2017). Peters (2020) emphasized on the philosophy of development and pointed out that education is very important in the future, while the essence of the “Belt and Road Initiative” as the philosophies behind the new Silk Road focuses on the following principles and concepts:

1. The new development model in China focuses on “hard” and “soft” infrastructure: (i) roads, railways, ports and transportation; (ii) learning networks, technology transfer and services; (iii) people-to-people (educations and ideologies);
2. Open philosophy includes economy (trade and tourism), society (education and science), philosophy (interculturalism and global diplomacy), which is characterized by open access, open knowledge, and open education;
3. Interconnection-digitalization, fast and abbreviated, the new 5G technology;
4. Eurasia is a geopolitical concept created by the harmonious relationship between China and Russia;
5. China is an emerging digital country derived from AI, 5G, ML, quantum computing, etc.;
6. Model communities, civilized dialogue and education, and the future of humanity;
7. Conduct communication and media education: Matters, Codes, Structure, judgment on data, Journalism, experience and intelligence;
8. “Cultivating the future” -- philosophical narratives (Marxism, Confucianism, Liberalism) exploring the future involving The Chinese Dreams and future dreams (Sustainable Development Dreams, Global Diplomatic Dreams, Planetary Dreams, Scientific Dreams and Bioinformatics Dreams).

In the unprecedented transition period of the end of the 20th century and the beginning of the 21st century, internationalization, economic and culture are intertwined. However, recent geopolitics incidents, some of which are driven by the revival of populism, in some countries/regions, are pushing to turn from internationalism to openness. With Brexit and European integration issues, the United States seems to have turned its back on the world. Some universities (such as in Turkey and humanitarian) have created uncertainty, especially in international cooperation, the free flow of students, scholars, scientific knowledge and opinions. At the same time, China will benefit from the continuous improvement of its universities in terms of global visibility. These growth uncertainties in the West may only make China more successful. Its purpose is to attract Chinese talents who have been educated abroad to return to China and increase its influence on the global higher education landscape. Higher education cooperation and the B&R Initiatives are major components of the new China-EU relationship. The Belt and Road Initiative will be based on the values of addressing inequality, basic human rights and the rule of law. While many important regions in the world are under increasing pressure, how will BRI affect the role of higher education in an open society? How will China contribute to higher education as a global product? How does China’s soft power play a role in higher education (Kirby & Wende, 2019).

This process alienates cross-culture, and the original meaning of internationalization that combines the concept of cross-borders with personal practice may harm the development of a country’s higher education and even erode the sovereignty of a country’s higher education. Undoubtedly, there is an urgent need to adjust the international mission and its higher education elements. Shock-reaction is the logic of China's higher education development. As a “shock” factor, the Belt and Road provides unprecedented opportunities for the development of Chinese higher education. The concept of “community” and “five links” advocated by the “Belt and Road” is consistent with the ideal of mutual benefit in the internationalization of higher education. The social and economic development of countries along the “Belt and Road” and the improvement of higher education level require a broader market, which provides opportunities for the sublimation of elements and the transformation of modes of higher education internationalization (Zhang & Chen, 2018).

Higher education is an important pillar of B&R, and as Chinese universities improve their global popularity, China is working hard to increase the level of higher education. Huo (2020) studied the impact of the “Belt and Road Initiative” on international trade and expanded it by analyzing China’s higher education sector. One of the biggest winners of the BRI is China’s higher education sector. As an important research area, higher education for BRI has not been reviewed in various literature. Since most of the research in this field is published in Chinese domestic journals, this research is not available to the wider international research community. Therefore, scholars know very little about higher education in BRI. In order to know what is the current status in literature and what we can do in the future, a systematic and comprehensive review is needed to characterize previous work and assess whether there is potential for Belt and Road research in higher education. This review outlines conceptual models and theoretical trends to explore the B&R in higher education; rigorous discussions on the main topics covered and research methods used in existing research; and identification of research gaps and future research areas. It outlines the literature outline of China’s Belt and Road Initiative on the development of higher education, discovers emerging themes, highlights the “vacancies and blind spots” in the current knowledge base, and determines the direction of future research. It has laid the necessary foundation for the development of a “global knowledge base” in the field of higher education and enriched our understanding of higher education and the Belt and Road. This review addressed four specific research questions.

**Research Question 1:** What kinds of research has been published on the higher education for BRI?

**Research Question 2:** What is current status and finding in the literature of higher education for BRI?

**Research Question 3:** What is future direction in the literature of higher education for BRI?

2. Research Method

The author uses a narrative synthesis to review the collected literature. The narrative synthesis method can be used to synthesize quantitative and qualitative research, and the experimental and quasi-experimental research included in the systematic review are not similar enough to be suitable for meta-analysis (Mays et al., 2005). Narrative synthesis is used in different ways. In this article, we use it as a general term to describe a series of methods for synthesizing data in a narrative manner, with special attention to narrative methods in synthesizing qualitative evidence (Snijstveit et al., 2012).
This method refers to the systematic review and synthesis of findings from multiple studies. These studies mainly rely on the use of text and words to summarize and explain the comprehensive findings (Snilstveit et al., 2012; Popay et al., 2006; Qiao & Zhang, 2017). The narrative synthesis process involves extracting the evidence found in each article, summarizing the content of the research and summarizing, and drawing conclusions based on the findings.

In view of the large number of higher education literatures studying the Belt and Road Initiative, the author limited the initial analysis to the research conducted in the last 6 years (2015-2020). The first research that meets our criteria for inclusion was from the year 2015. The research in this article refers to evidence-based research through data analysis or direct experience. These studies can provide illustrations or confirmation of relevant theories for higher education in the research environment. The author collected the following research from a limited source of native speaker language and English: (1) Empirical research on the “Belt and Road” initiative for higher education in major educational journals published in mainland China. Limited to the leading journals listed in the “2019-2020 China Social Citation Index” (CSSCI). As Chinese university scholars rush to publish research results in CSSCI journals, the research quality of these journals is relatively high. Most of the articles are from higher education journals. (2) Doctoral dissertation from Mainland China. The relevant doctoral dissertations are identified from the Chinese Doctoral Dissertation Full-text Database. (3) Articles published in international journals in Google Scholar. Due to vague terms related to higher education, we used the following search terms: “Higher education and the Belt and Road Initiative”; “University's Belt and Road Initiative”; “Higher Education’s Belt and Road Initiative (higher education is the abbreviation of Chinese higher education)”. Based on these search parameters, we collected an initial library of related research.

Next, a clear inclusion criterion was developed to screen the studies to narrow the literature for review (see Table 1). Each article is screened according to the inclusion criteria, which establish clear and consistent rules for inclusion and help avoid hidden biases. We excluded irrelevant research: those that simply applied the concept of B&R to higher education in a given context. Using the same criteria to evaluate each study ensures transparent selection.

Table 1. Criteria for inclusion

<table>
<thead>
<tr>
<th>Topic</th>
<th>B&amp;R Initiatives for higher education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publication date</td>
<td>Between 2015 and 2020</td>
</tr>
<tr>
<td>Transparency</td>
<td>Explicit research methodology</td>
</tr>
<tr>
<td>Correlation</td>
<td>General higher education</td>
</tr>
</tbody>
</table>

Figure 2. Annual volume of studies of China’s Belt and Road Initiative for higher education in mainland China (published 2015-2020)

Moreover, we reviewed the following key features of each article: The Belt and Road aspect of higher education; conceptual perspectives guiding interpretation; research methodology; research background; and main findings. After completing this in-depth analysis process, we classified a large amount of data into appropriate groups and refined these groups based on five emerging themes: higher education development in countries along the route; higher education cooperation between countries; and higher education internally Education; functions of higher
education; education of foreign students. These themes constitute the organizational framework of the exploratory systematic review. Within the framework of this theme, the methodology and background issues related to the “Belt and Road” study of higher education were also analyzed and discussed. We extracted the key ideas and elements in each article, then classified and categorized into themes. Five major themes were obtained by this method. The particular studies singled out for in depth discussion according to the conclusion of the themes.

For example, we read the article of Liu, Liu and Hu (2016) and extracted the main idea is “Among the 73 countries along the BRI: 1. There are only 11 countries where the higher education process is at the stage of elite education, most of which are low-income developing countries in Asia; 2. There are 29 countries in the stage of popularization, mainly middle-income developing countries in Asia; 3. There are 33 countries in the stage of popularization, mainly developed countries with higher economic levels in Europe and Asia. 4. Overall, more than 85% of countries are currently at the stage of popularization of higher education and beyond. 5. According to the changes in the gross enrollment rate of higher education, the development models of higher education in these 73 countries can be summarized into four types: steady growth, rapid growth, fluctuating development, and slow development. 6. It is estimated that by 2020, more than 50% of countries along the “Belt and Road” will be in the stage of popularization of higher education, 40% of countries will be in the stage of popularization of higher education, and less than 10% of countries in the stage of elite higher education.” Therefore, we categorize this article belongs to the theme “Higher education development in countries along the route”.

3. Results

This section begins with a general observation of the research in my review. The systematic search of educational research initially produced 973 kinds of resources. The existing work represents considerable progress in implementing the “Belt and Road” Initiative and reimagining higher education. After eliminating these irrelevant studies, an in-depth analysis was conducted on 96 publications that met the inclusion criteria and made findings.

3.1 Overview of Studies on B&R Initiatives for Higher Education in Mainland China

As mentioned above, the reviewed literature consisted of 96 articles, and an average of 16 articles were published each year for 6 years. Considering the scope of the article and the length of the research period, these numbers are not large. It is noticed that only two articles were published in 2015. Since 2016, the number of studies published each year has remained stable (see Figure 2). This shows that since 2016, researchers have maintained a consistent interest in this field and have a deeper understanding of the Belt and Road in higher education. In addition, the nationality of the author is also used to determine the distribution of knowledge production in the reviewed literature. Among them, 85 research published in Chinese was written by Chinese authors, one was an international team conducted only one study. 10 studies were published in international journals. This indicates that the main journals in this field in China are still local-oriented. As shown in Figure 3, of the 96 studies in our review, 25 (26.04%) were empirical research, 71 (73.96%) were non-empirical research. To their authors’ credit, many empirical studies have used second data analysis methods.

3.2 Critical Interpretation of Existing B&R Initiatives for Higher Education Research

A review of the latest research on the Belt and Road Initiative in higher education in Mainland China revealed
the following five main research areas: (1) Higher education development in countries along the route; (2) Higher education cooperation between countries; (3) Internationalization of higher education; (4) Higher education functions; (5) Education of international students. In this section, we will critically explain these five main themes and discuss findings related to theory and practice.

3.3 Higher Education Development in Countries along the Route

According to the literature, the Belt and Road in higher education cooperation involves a wide range of fields, different types of needs, different national security risks, and complex and diverse issues. Based on the characteristics of the Belt and Road Initiative, timely advance the strategic layout of international cooperation in higher education and cultivate innovative and leading talents that influence education and culture. Effective cooperation in higher education must be based on a thorough understanding of partner countries, and the highest coordination must be based on the status quo of development needs. Promote the implementation of classification and try to implement strategies when the “one country, one policy” cannot be fully realized (Xin & Kan, 2019).

A number of studies have shown that the development of higher education in countries along the B&R Initiative is unbalanced. Small scale and low quality are common. However, the total enrolment rate of the right-age population in some areas and the number and scale of higher education have exceeded expectations. The university’s rankings of some countries perform well, and factors such as war, geographical location, religion, politics, colonial history and other factors have seriously affected the development of higher education. Secondly, most countries have a good vision and develop higher education through medium and long-term planning, establish management systems and organizational structures, introduce high-quality resources and encourage private capital participation (Liu, Yan, Ha & Yan, 2018). Higher education has always been a long-term and serious brain drain, especially the problem of academic brain drains. In turn, it further weakened the national talent base for innovation. It is caused by the dual pressures of poverty and population; colonial history, tradition and language; political and ideological problems and scarcity (Liu & Liu, 2017; Su & Li, 2017; Zhang & Chen, 2018).

The literature also provides some statistical information: Among the 73 countries along the B&R, only 11 countries have a higher education process at the elite education stage, most of which are low-income developing countries in Asia; 29, mainly middle-income developing countries in Asia. There are 33 countries in the popularization stage, mainly developed countries with higher economic levels in Europe and Asia. Overall, more than 85% of countries are currently at the stage of popularization of higher education or higher. According to changes in higher education enrollment rates, the higher education development models of these 73 countries can be divided into four types: steady growth, rapid growth, volatile development and slow development. It is estimated that by 2020, more than 50% of countries along the B&R will enter the stage of popularization of higher education, 40% of countries will enter the stage of popularization of higher education, and the percentage of countries in less than 10 countries at the stage of elite higher education (Liu, Liu & Hu, 2016; Lv, 2019; Li, Shen & Han, 2017). These data provide international scholars with a clearer and more specific picture of the Belt and Road higher education in the natural environment.

Higher education in the countries along the route should be care of developing talents. Talents must be familiar with the situation in China and China’s systems, policies and laws. They have the ability to participate in and serve in various government-coordinated policy formulations and intergovernmental politics. With the continuous expansion and deepening of Chinese enterprises’ “going out” level, international trade rules, currency circulation and capital operation are all indispensable for talents. In the exception of Central and Eastern European countries, these countries have relatively weak industrial strength and the overall level of engineering education is not high. The construction, management and maintenance of these projects are essential to the development of engineering technology. Scientific and cultural talents call for long-term educational cooperation (Chen & Wen, 2018; Wang & Zhang, 2018).

3.4 Higher Education Cooperation between Countries

“Community” is an important idealization of higher education cooperation. Some researchers have proposed from the perspective of pedagogy that a community is a social organization constructed on the basis of a consensus on values through policy negotiation, mechanism establishment, and resource integration. From a Marxist perspective, a community is a free alliance established by individual social interactions, and individuals can develop freely. China's traditional “harmony” culture has become a “community” after thousands of years of development. The concept of "community" is rooted in cultural genes (Zhu & Liu, 2019).

The precious experience of China’s diplomacy provides the most universal explanatory power for economic and
social development. Regarding the true meaning of “community”, although there are differences in different contexts, the common explanation is that countries, regions, and social groups, based on the same interests, common goals, mutual self-identification and spontaneous establishment, make members feel ownership, identification and security. The essence of community is the process of achieving goals by reaching consensus on common interests and goals, cultivating public authority, and building the right to speak (Zhu & Liu, 2019; Qie & Liu, 2018). The foundation of the B&R in higher education is the sharing of values, goals, resources and risks among all countries. It is a new concept and model, a community of interests, vision, social culture and order (Zhu & Liu, 2019).

Li and Ruby (2020) stated that in May 2015, the New Silk Road University Alliance (UASR) was established in Xi’an, initiated by Xi’an Jiaotong University. There are currently 151 universities with members, and scientists from 38 countries and regions share the mission of academic development on the Silk Road, promote regional opening and development, and strengthen exchanges and cooperation. And it pays special attention to the B&R and Eurasian region, with 40 or more universities from China and 20 universities from Russia. Many members even come from outside of the region, including replacement members from New Zealand and more than a dozen universities from France. In the same year, 46 universities from serial countries formed the “One Belt One Road” University Strategic Alliance (OBORUSA) in Dunhuang, Gansu. In 2016, the Central Asian University Alliance (CCAUC) came from more than 170 universities in 25 countries/regions, gradually developing a higher space along the common 'Belt and Road' route, promoting higher education exchanges and cooperation, and promoting economic and social development. Established in Urumqi, it is a member of 51 higher education institutions in seven countries along Xinjiang. CCAUC began to organize regular forums to improve student mobility and credit transfer between China and Central Asia.

On the other hand, the growth of Confucius Institutes in the region has relaxed the qualifications for joining these alliances. The membership qualifications introduced by the establishment of the “Belt and Road” are also replaced by countries along the “Belt and Road”. Although these networks include coastal universities in China, any of the founding members or initiators of these three networks are located in important places along the historical Silk Road. Xi’an is the starting point of the ancient Silk Road, and Dunhuang is the main historical stop. The historical Silk Road is the most famous route through Xinjiang from the east to the northwest border. In contrast to the more well-known international activities in eastern and southeastern China, these three alliances have drawn attention to the internationalization efforts of landlocked countries.

China has the world’s largest cross-border education resources. Setting up universities abroad, studying in China, and studying abroad have become the "three in one" of cross-border higher education. There are many specific cases of higher education cooperation between China and other countries, such as China and Russia (Gua & Zhao, 2017), China and Pakistan (Shi & Zhang, 2019). Among them, Liu, Yan, Ha and Yang (2018) carried out more prominent empirical research on it. They found that developing higher education cooperation in the form of projects is one of the main ways for countries to connect with Chinese higher education. During this period, international cooperation projects were carried out in 9 provinces and cities, including 31 cooperative education projects including Beijing, involving 6 countries including Russia, Belarus, Poland, Singapore, Ukraine, and India. Among them, Russia has the most with 19 companies. Confucius Institutes are gradually established in countries along the route and become a successful example of school construction. At the same time, the establishment of cross-border higher education entities and a higher academic reputation are also underway. China is gradually reversing the “Talent Trade Deficit” pattern in the international academic market, becoming the world's third-largest overseas study country. Among them, academic and non-academic research in countries along the B&R are the main subjects. The interview also shows that countries along the Belt and Road have always regarded studying in China as an important way to improve the quality of higher education talents. International students are an important indicator of the degree of internationalization of a country. China's diplomatic exchanges with countries along the B&R are getting closer. The number of documents and foreign affairs activities are increasing, and the development trend of bilateral or multilateral diplomatic relations in higher education is constantly improving. More importantly, the institutionalization and standardization of international cooperation in higher education has been on track.

Zhang and Liu (2019) discovered that international higher education cooperation under the Belt and Road Initiative is diverse and expanding in scale. In terms of talent exchange, as of 2017, a total of 317,200 international students from countries along the route have come to China for studying, accounting for 64.85% of the total number of international students in China (Ministry of Education of China, 2018). The number of international students in China reached 61,600, an increase of 15.7% over the previous year. In terms of school-running cooperation, as of June 2018, China has already had 300 cooperative school-running institutions...
and projects. Universities in Russia, Ukraine, Singapore, India and other countries/regions have participated in cooperation projects in 26 provinces and cities in China. In the aspects of language and cultural exchanges, China has established 140 Confucius Institutes and 135 Confucius Classrooms in 52 countries along the route, accounting for 26.7% and 12.1% of the total number of Confucius Institutes respectively. Confucius classrooms in the world. For foreign education assistance, universities across China have established educational assistance bases to help countries build buildings, provide equipment, and dispatch teachers.

In addition, ASEAN countries are in a favorable position, and they have maintained close economic and trade exchanges with China for a long time. Together with the continuous development of ASEAN's integration process, the international influence is increasing, and it is destined to It will become a priority area for China to build the 21st Century Maritime Silk Road (Zhou & Luo, 2016; Ma, 2017; Liu, 2018; Wang & Zhu, 2019; Jia & Fang, 2018). China and Russia signed mutual recognition of academic qualifications as early as 1995, degree and certificate agreement. Further, a confident India can leverage the Chinese initiative to its own advantage in the areas of connectivity, manufacturing and higher education sector (Sachdeva, 2018). Except for the relatively complete China-ASEAN educational cooperation system, there are not many regional cooperation agreements between China-Arab, China-South Asia, China and Europe. For example, China and Arab countries have not yet signed mutual recognition of academic qualifications, degrees, etc. These policies have affected China’s extensive and in-depth participation in educational exchanges and cooperation, such as cooperation with universities (Liu, 2018).

Lee, Lo and Abdrasheva (2020) found the theoretical thinking on the globalization and internationalization of higher education emphasizes the tension between different ideologies of higher education. According to the literature, competition among nations, economies, knowledge, and status will generate this pressure to drive the development of higher education. They focused on the institutional logic that inspires the University of Kazakhstan to interact with it. Lee, Lo and Abdrasheva (2020) investigated the interpretation of higher education in Kazakhstan and responded to China's vision for a global order. Based on the interviews conducted by 10 higher education institutions (HEI) in Kazakhstan, institutional leaders in Kazakhstan concern on utilitarianism, seeking income generation, connections with industry, and providing students with employment and continuing education opportunities. The findings indicate that the leaders of Kazakhstan's institutions regard the “Belt and Road” initiative as a policy to establish ties with China, rather than ties with participants defined by geographical location, a common history, and the unity emphasized by Chinese discourse. Unfortunately, China’s ambitious global cooperation goals have not resonated globally. Even neighboring Central Asian countries rarely appear among the participants. For Kazakhstan, the obvious utilitarian logic may only lead to short-term gains when Chinese counterparts recognize the limited benefits of cultural exchange. Higher education in Kazakhstan can support students’ interest in Chinese in the following ways: 1. Confucius Institutes are used as the work foundation of cultural institutions. 2. Kazakhstan participated in the study at the Silk Road International Summer School of Xi'an Jiaotong University. Universities can expand to faculty exchanges and eventually achieve research cooperation.

Existing research also show that the higher education cooperation of the Belt and Road Initiative is very uneven. In addition to the good cooperation with ASEAN, the exchanges between China and South Asia, the Arab League and Central and Eastern Europe in terms of mechanism, student exchanges, teacher exchanges, research cooperation and cooperative education are also restricted. This deficiency is not only reflected in bilateral exchanges, but also in Chinese higher education entering these regions (Li, 2017; Ma & Zhou, 2019).

1) Continue to expand the scope of higher education cooperation, improve the scope of higher education cooperation, and expand the participation structure the depth of cooperation is the basic task (Li & Liu, 2019; Che & Xu, 2020; Zhou & Zhang, 2018; Liu, 2016; Liu, 2020);
2) Strengthening the training of language talents and professional and technical personnel and promoting the flow of talents is auxiliary work (Shi & Zhang, 2019).
3) Develop professional standards for teacher education and establish a comprehensive higher normal education system (Qu & Liu, 2019).
4) Promote mutual recognition of degrees (Fang, Sun & Huang, 2018).
5) Strengthen the quality assurance of cross-border higher education (Xue, 2016a; Jia & Fang, 2018).
6) The aid model should combine bilateral project cooperation with multilateral aid, and continue to develop more scholarship programs (Teng, Ding, Chen & Wang, 2018).
7) Exchanging the diversified role of Confucius Institutes as a cultural platform (Li & Tian, 2017).

Additionally, Liu (2017) believed that China has introduced strong engineering technology and high-quality capital in the natural sciences of Malaysia to enable higher education to achieve mutual benefit and win-win
through cooperation and complementarity. For areas where the development of agricultural science and humanities is weak, China should promote high-quality educational resources in this field to Malaysia. Since the development of various disciplines in Thailand is relatively balanced, China should encourage and strengthen the interaction between university social science disciplines, medical and health, engineering and technology exchanges, promote cooperation and the sharing of educational resources between the two countries, and consider appropriate Thai exports to Chinese agriculture technology, natural science and humanities quality education resources.

Some studies have shown that China can learn from the cases of other international companies. By studying the background, operating mechanism and existing problems of typical Barents Sea transnational universities, it is recommended that China build educational communities along the B&R and carry out cross-border higher education activities B&R in the regions. At present, we should fully understand the value and role of cross-border universities from a strategic perspective, and actively build them; promote mutual recognition of degree levels, and strengthen the quality assurance of cross-border higher education; raise resources from multiple sources to expand the source of school operating entities; smooth communication and coordination mechanisms to promote in-depth pragmatic cooperation (Xue, 2016). China can learn from Yale National University Corporation: professional selection and course structure, registration methods, and strengthen quality assurance.

1. Expand and use alliances to cooperate with first-class universities in countries along the route.
2. Promote the integration of admissions and examination mechanisms and expand the scope of mutual recognition of degrees.
3. Attach importance to undergraduate education and teaching, and jointly build the College of Humanities.
4. Comprehensively strengthen the construction of the quality assurance system and improve the relevant legal mechanisms (Liu, 2017). Such as overseas Russian Architecture School (Xue, 2016b), Japanese Language and Culture (Gong, 2016).

3.5 Internationalization of Higher Education

Researches have shown that expanding education opening is a major global issue related to the sustained and stable economic development and the guarantee of long-term social stability (Zhao, 2016). To promote the multicultural identity of the world and to form a multicultural ecology, in which different cultures coexist and depend on each other, complement each other, use international consciousness and ability to cultivate world citizens, the vision of all mankind, and build a community. The destiny of serving people is a sacred international higher education mission and a rational choice in all aspects (Li, 2019; Xu, 2019). Culture can be defined as a group of people’s beliefs, values, rules, norms, customs and tradition (Yue, 2020). Professional certification is a guarantee for quality, China should reflect the responsibilities of a major country, such as the National Qualification Framework (Wang, 2017). The professional international certification system fundamentally eliminates the flow of professionals (Bao, 2018).

In the Guo (2019) research, in the “2018 QS World’s Best Student Cities” report released by the international higher education research organization QS (Quacquarelli Symonds), 13 of the top 100 cities in the world are in the United States, 10 in the United Kingdom, 8 in Australia, and only 3 cities in mainland China, and the highest ranked Beijing is only 26th, far lower than Tokyo (2nd) in Japan and Seoul (10th) in South Korea. It can be seen that regardless of the number or quality of the ranking, there is still a big gap with the traditional higher education power. Judging from the six scoring criteria in the ranking, Chinese cities score significantly lower in attractiveness, student diversity and the number of world-class universities. There is a lot of room for improvement. The identity of the 985 projects & 211 projects are solidified. These labels have led to uneven allocation of resources for universities. Local universities are not in first-tier cities or provinces and cities. Resource allocation is relatively weak. Local government financial investment is insufficient. It is inconvenient for transportation and talent introduction, the cost of running a university is difficult (Li, 2017; Guo, 2019).

There is also evidence that an important part of China’s higher education, local colleges and universities play a role of knowledge and intellectual support in regional economic and social development (Xue, 2018; Qian & He, 2017; Ma & Zhang, 2016). The in-depth advancement of the B&R Initiative has transformed many ethnic minority areas in China from the former marginal areas into bridgeheads for opening up. The economic and social development of ethnic regions is facing new historical opportunities. Especially the opening up and cooperation of higher education. Universities in minority areas should have a deep understanding of the practical basis of integration (Xue, 2019). Therefore, internationalization is an inevitable trend in the development of
higher education.

The implementation of the B&R Initiative requires colleges and universities in ethnic areas to speed up the process of internationalization and meet the demand for talents (Chen, 2018). This initiative will bring new opportunities for the development of higher education in Guangxi. According to the 2018 QS Asia Top 400 University Rankings, Guangxi has only one university on the list, with a total of 73 universities and universities, including 3 from Singapore, 26 from Malaysia, 14 from Thailand, 17 from Indonesia, 6 from the Philippines, and Brunei. There are five and Vietnam has two. Ranked 69th in Guangxi University (Qin & Wang, 2018). Internationalization is one of the major forces shaping and developing international relations. Zhao and Yu (2018) argued that higher vocational education in Yunnan province is deeply influenced by it. The “Belt and Road” initiative is an unquantifiable globalization, and its revenue is undoubtedly huge. It is also difficult to calculate international influence activities, because the knowledge industry is usually an overall economy with large amounts and rapid growth. Yunnan Province should pay more attention to the four aspects of the international vocational education development plan, including governance, operation, service and human resources, in order to achieve international sustainable development.

The implementation of the B&R Initiative requires colleges and universities in ethnic areas to speed up the process of internationalization and meet the demand for talents (Chen, 2018). This will bring new opportunities for the development of higher education in Guangxi. According to the 2018 QS Asian Top 400 University Rankings, Guangxi Province has only one university on the list, with a total of 73 universities and universities, including 3 from Singapore, 26 from Malaysia, 14 from Thailand, and 6 from Indonesia. From the Philippines, Brunei has five and Vietnam has two. Ranked 69th in Guangxi University (Qin & Wang, 2018).

The B&R Initiative involves the construction of common goodness, policy implementation, economic development and cultural heritage (Li, 2018). At present, higher education in western China still faces problems such as a shortage of high-level leadership talents, misalignment of supply and demand, insufficient basic guarantees, and poor development environment (Wang & Mai, 2019; Wei & Li, 2017). The scope of talents participating in the country’s side of demand includes infrastructure construction, transnational trade, capital operations, technological innovation, cultural communication and other fields. Specifically, it can be divided into three types of talents (Hu & Shi, 2018): infrastructure construction, regional economic and trade, and cultural exchange and cooperation (language). The internationalization of higher education has a history of more than 40 years, and its characteristics of development over time are very obvious (Zhang, 2019).

The B&R Initiative has also opened up Hong Kong’s higher education to the internationalization, and further brought policy advantages. The University of Hong Kong has adjusted its majors in accordance with economic development trends and industrial structure needs and has integrated educational resources in the region. Combining its own characteristics and advantages, it has strengthened exchanges with countries along the route. Collaborate to cultivate compound talents with an international perspective, while using the university-industry-research linkage model to serve the society. In short, in terms of higher education cooperation platforms and mechanisms, collaborative innovation and cooperative school education, the initiative has brought “fresh blood” to Hong Kong’s higher education (Zhuo & Li, 2018). Similarly, the "Macao Belt and Road Higher Education Exchange Association", the "Belt and Road National Education Promotion Association in Macao" and the "Macao Belt and Road Business and Professional Services Coordinates in Mainland China" were established in Macau (Kwong, 2020).

The universities in Fujian Province have put forward the internationalization goals, but there are still many weak links in actual work. Universities lack a master plan for international exchanges and cooperation, the goals, paths and guarantees for internationalization of schools are not clear, and the endogenous motivation is insufficient (Wu & Guo, 2017). Energy universities participating in the internationalization of higher education should reduce the direction of cooperation according to the orientation of the school (Zhang, 2018). The internationalization trend of Guangdong’s higher education has been recognized by most universities in China, but there is still a certain gap between it and “complete internationalization”. Insufficient international funds and obvious differences in the internationalization of teachers, the proportion of international students in China needs to be increased (Luo, Zhou & Hu, 2017). There are unreasonable places in Tibetan universities in terms of talent concept, curriculum, professional structure, teaching staff, and international practice (Cheng & Dun, 2019). Gansu Province needs improvement, which is mainly reflected in the weakness of the “Belt and Road” background platform, talent training structure, and research scope (Li, Wang & Zhang, 2019).

3.6 Higher Education Functions

Many literatures show that higher education under the Belt and Road Initiative works through three ways: talent
education, service trade, and voice. Research tends to focus on the characteristics of individual group types. As many industries and companies gradually go abroad, China urgently needs talents with cultural literacy and professional skills. To this end, first, universities should focus on building cross-cultural colleges, integrating internal resources, and assigning teachers to the “project practice system” of the Belt and Road Initiative. Higher education carries out scientific research cooperation and cultural exchanges, cultivates think tanks (Lin, 2016), improves the ability and level of talents, and attaches importance to the professionalism and practice of students (Zhu & Liu, 2018; Cheng, 2016; Liu & Ha, 2017). The play of soft power is far better than the competition of hard power. Talent is the key and key to the construction of the Belt and Road. Without the support and guarantee of talents such as innovation and entrepreneurial talents, international talents, non-universal language talents, etc., the vision and goals of initiative cannot be realized. The higher education sector should use “endogenous” and “extension” as the path to update concepts (Zhou & Kan, 2015; Zhu, 2017). The three basic links and six aspects of talent introduction--process training--talent output export are closely connected with the international talent training framework system (Wen & Jiang, 2015).

Almost all returned academic talents came from Singapore, Russia and Israel, and flowed to Beijing, Shanghai and Jiangsu. They majored in materials science, engineering technology, electronic information, civil engineering, chemistry, biology and physics (Lv, Ha & Chen 2017). The Ministry of Education has selected many universities with different characteristics and advantages as educational aid bases in different regions of the country. These bases have played an active role in promoting education assistance in China, but there are also some problems, such as small numbers, unreasonable regional and professional layout, and insufficient teachers (Zhuang & Liu, 2018; Bao, Zeng & Zhang, 2016). While continuing to strengthen the professional education of science and technology, the education of humanities and social sciences is also scientifically and reasonably increased to better meet the needs of the national development strategy (Wang, 2016). The implementation of the B&R Initiative has spawned the higher demand for foreign languages in China. The current in-depth investigation of foreign language education should be strengthened. Effective integration and new layout of domestic and foreign language higher education resources are needed. Leaders carry out external language higher education reform under the background of the B&R Initiative (Xu, 2017).

China’s engineering education disciplines and majors basically cover all kinds of talents needed by countries along the route. National engineering education in different regions along the route has its own advantages and disadvantages, so the education cooperation should have its own focus (Lin & Hu, 2016). The implementation of the B&R Initiative has spawned a higher demand for foreign languages in China. At present, in-depth research on foreign language education should be strengthened. New higher education resources at home and abroad need to be effectively integrated. Leaders carry out external language higher education reforms in the context of the Belt and Road Initiative (Xu, 2017).

Higher education service trade occupies an important position in the world service trade market. Among them, the education export based mainly on the education of foreign students is the main content, with great development potential. The main influencing factors are demand, cost, convenience and communication conditions. The number of Confucius Institutes, the ratio of per capita income and scholarships have had a significant positive impact on China's higher education exports, and the regions along the route are uneven (Chen, 2018). The discourse power of higher education is a special power relationship formed by the combination of discourse rules and practical discourse facts. The internationalization of capital laid the foundation for the discourse rule of Western higher education.

For a long time, the discourse power of higher education in Asia and Africa has been in a state of introduction, imitation and reference. The B&G Initiative brings development opportunities and promotes its independence. China’s “double first-class” higher education initiatives have set an example for countries along the route to rebuild their discourse power in higher education (Ma, 2018). If higher education wants to gain strong vitality, it must take advantage of the strategic opportunities of this initiative. Setting standards and making them international is the only option for developing higher education with Chinese characteristics. China must establish higher education quality standards with its own cultural implications (Huang & Wu, 2017; Zhu & Liu, 2020).

It is inevitable to build a higher education discourse system with Chinese characteristics. It is the correct meaning for building a strong higher education country. It is also the key to implementing the B&R Initiative and building a common future community for mankind. The difficulty lies in the lack of “four self-confidence” in higher education, the socialist higher education thinking, the imperfect theory and system with Chinese characteristics, the weak international competitiveness, and the low level of internationalization. The countermeasure is to enhance the persuasiveness, credibility, attractiveness and creativity of the higher education.
discourse system with Chinese characteristics (Luo & Guo, 2019).

3.7 Education of International Students

Compared with the development of higher education in China, with the exception of Confucius Institutes in various countries, the export of higher education has been developing slowly. In Huo (2020)'s study, it was found that since the official launch of the BRI in 2015, the driving factors of China's macro and micro environment have accelerated this process. His finding proved that macro and micro factors, such as high exports, low exports, imports and tariffs, and China's high-quality higher education have become the assets, which will increase the number of international students coming to China to study. While from economic, culture and society domains, the Belt and Road Initiative also plays a similar role.

Gong et al. (2020) used second-hand data to analyze the factors that influence the Belt and Road Initiative as the expansion strategy of Chinese universities in the education market, including the following aspects: First, the BRI helps China and other countries along the route (such as Russia, Malaysia, etc.) expand the field of higher education. Second, psychological distance is one of the most critical factors to "drive out" international students. Third, in 2014, the number of international students in China accounted for 8% of the global student population, which means that China becomes the world's third largest importer of international students. The links between non-entities in the countries along the BRI are related to rules and regulations, especially close to culture and education. In addition to physical connections, attention should also be paid to related roads and transportation infrastructure. Among higher education institutions in 60 countries, even though educational systems similar to those along the “Belt and Road” have been discovered along the way, there are still difficulties in promoting cooperation due to differences in economic and cultural backgrounds. As an important part of global talent, international students are becoming more and more prominent. Therefore, effective strategies or methods, such as enhancing the level of infrastructure, reducing unemployment and tariff rates, improving university academic rankings, and giving play to the synergy of education and industry, can help universities and colleges attract students from all over the world.

The Belt and Road Initiative has important educational significance for foreign students in higher education. Therefore, these studies are aimed at China’s international projects. Among the countries along the Road, 39 are in the early stages of development, mostly low-income developing countries; 4 countries are in the middle of development, and most of them have relatively high economic levels. The three countries in this period were all resource-based or high-level economies. Overall, 93% of countries are still in the pre-intermediate stage of development for international students. Input modes can be summarized into four types: continuous growth, rapid growth, volatility and continuous slowdown. According to the changes in the scale of student output and growth rate, the export model can be summarized into four types: high-speed development, rapid development, low-speed development and reduction (Liu & Lei, 2019).

Peters (2020) thought, in this new environment, foreign students from the Belt and Road Initiative enter Chinese universities. These students were squeezed out of their home country universities and attracted by Chinese scholarships. Countries from the route of Beijing's massive infrastructure plan are pouring into China, reshaping regional education and affecting global higher education. In the past year alone, the number of students enrolled in partner countries of the “Belt and Road” increased by 12% to 317,000 students. Six Chinese universities have become "magnet institutions" for BRI developing countries.

The distribution of the country’s international students coming to China along the houses in each province is not random, but it shows an important positive spatial autocorrelation, that is, fewer foreign students studying abroad in the capital city of a province and close to the city Ye Xiao (Liu & Yang, 2018). Asian students make up the majority, while African students have the highest growth rate. The structure and academic level of international students have been continuously optimized, and the choice of subjects has become more diverse. Scholarships have become an important lever for high-level talents to study in China (Li Fang, 2018; Wei, Yuan, Lai, 2018). However, the international market share of China's overseas education is relatively small, and the total amount of high-quality higher education is relatively low. Dominant majors can hardly meet the needs of international students. It is recommended to build world-class universities, disciplines and professional groups, policy chains for studying abroad, and optimize the overall environment for studying abroad (Li Fang, 2018; Zhang, 2018).

Relevant departments should promote the mission of the International Exchange Association in promoting the education and publicity of foreign students in China, strengthen exchanges and cooperation with other countries, attract more high-quality students to study in China, and increase international awareness of the popularity and influence of my country's higher education. Key majors involve language, transportation, architecture, medicine, energy, environmental engineering, water conservancy engineering, biological science, marine science,
ecological protection, cultural heritage protection, etc. (Yu, Hubert & Qu, 2020). The proportion of international students has gradually expanded. However, there are also problems such as the low overall scale, the structure to be optimized, the subsidy system has not been established, and the single promotion method. This not only requires the government to formulate policies and innovate working mechanisms at the macro level and expand the scale of education; it also requires universities to actively participate in the construction of professional courses, innovate training models, and improve teaching quality (Zheng & Ma, 2016). The education of foreign students is the basic human resource support of Xinjiang. In the past 15 years, China’s Xinjiang Province higher education student population has shown a rapid growth trend, with non-academic education as the main body, less high-level education, and increasing demand for government scholarship funds (Chen & Ha, 2018). These findings show that the education of foreign students is complicated and there is still a long way to go.

China is rapidly becoming a coveted destination and higher hub for international students, especially since the announcement of the “Belt and Road” transformation. Therefore, in September 2013, China’s higher education institutions are looking for ways to enable international students. However, teaching exchange refers to exchanges for the purpose of participation and academically to reduce students’ misunderstandings in the classroom. Akhtar, Pratt and Hu (2019) proposed the learner-centered teaching communication and cross-cultural sensitivity model. This model attempted to establish the framework with three key structures: (a) the teacher’s classroom behavior and the characteristics of international students, (b) the teaching beliefs of international students, and (c) Learning outcomes. This framework will respond to the international teaching practice of students as global learners, and is committed to deepening and maintaining the internationalization of China's higher education institutions, especially under the “Belt and Road” initiative.

4. Conclusions

The purpose of this review of higher education under the “Belt and Road” initiative in mainland China is to provide an overall picture of the knowledge base. Although interest in BRI seems to be in its infancy worldwide, this field has great potential for the international academic community. Among schoolteachers, policy makers, and education professionals, people are increasingly aware that the Belt and Road Initiative plays a key role in implementing educational reforms. However, this review reveals some problems with current research. First, scholars have not yet reached a consensus on the higher education policy and strategy of the Initiative in the regional and organizational levels. People tend to regard higher education under the Belt and Road Initiative as a theoretical concept. Secondly, the research on the methodological part of these studies shows that in leading Chinese journals, more than expected proportions of studies do not describe their research methods clearly or in detail. We also noticed that some of these empirical studies did not provide enough evidence to support their main arguments. This methodological trend shows that research on higher education along the Belt and Road is increasing, and the areas of excellence in research continue to increase, but it is still far from mature. Before discussing the implications of this review study, we must first pay attention to its limitations. Implied limitations range from our conscious decision to explore to the limited source set of local languages. Although we try our best to include BRI higher education research from mainland China from the past ten years, we must admit that this review reflects our own resource availability (and limitations), and we cannot claim that it has been exhausted all studies on B&R Initiative higher education in mainland China in in 2015-2020. If we include academic papers, reports, and book chapters written outside mainland China (if any), there may be other emerging topics.

Despite the above-mentioned limitations, this article makes specific suggestions for improving higher education under the Belt and Road Initiative. First, take measures suitable for local conditions according to the specific conditions of the countries along the route. This requires an in-depth understanding of the country and the training of corresponding experts. Second, on the issue of the imbalance of cooperating countries, pay attention to countries with little or no cooperation, and maintain and develop primitive country cooperation. Third, culture is the most important means in higher education under the “Belt and Road” initiative. Fourth, provide certain resources for universities in the central and western regions to reduce the differences in the internationalization of eastern and western universities. Fifth, raise the voice of academics and culture, and even the voice of the entire East. Self-improvement is the last word. Sixth, there is still some way to go for the development of foreign students in China. To formulate appropriate policies to attract higher-level international students, the focus is still to build world-class universities to attract research talents. Provide an inclusive, supportive and trustworthy research environment.

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