Review on the Compulsory Education Status of Migrant Workers’ Children in Chinese Cities

Lerongrong Chang,¹ Qingyun Bu²

¹. East China Normal University, Shanghai 200062, China
². Jiangsu University, Zhenjiang 212013, Jiangsu, China

Abstract: With the advancement of China’s economic and social development and urbanization, the scale of out-of-town migrant workers has been expanding. Following this, migrant worker children’s education problem has become increasingly prominent and has gradually become a focus of education research. This paper reviews recent studies on migrant worker children’s acceptance of compulsory education, and summarizes its existing education problems, aiming to provide direction and support for further promoting education equity and sustainable development of urban and rural education.

Doi: 10.15354/sief.20.2022


Keywords: Migrant Workers; Migrant Children; Education Issues; Compulsory Education; Review

About the Author: Lerongrong Chang, Postgraduate, Faculty of Education, East China Normal University, Shanghai 200062, China. Email: 525780831@qq.com.

Correspondence to: Qingyun Bu, Postgraduate, School of Foreign Languages, Jiangsu University, Zhenjiang 212013, Jiangsu, China. Email: qbu18851654684@163.com.

Conflict of Interests: None.
Question

The rapid development of China’s economy and the acceleration of urbanization, there has been an imbalance of urban and rural economic development. As a result, a large number of migrant workers have poured into cities to seek work and development opportunities, forming a huge “farmers’ frenzied hunt for work in cities (Min Gong Chao).” According to the “2019 China migrant worker monitoring survey report” released by the National Bureau of Statistics of China (2020), the total number of migrant workers in China in 2019 reached 29.77 million, of which 116.52 million were local migrant workers and 17,425 were out-of-town migrant workers. Among the out-of-town migrant workers, there were 135 million urban migrant workers living in cities and towns at the end of the year.

At present, China’s mobile population has developed into a form of “long-term” and “family-based”. The study by Wang et al. (2019) showed that since the mid to late 1980s, not only has the number of migrant workers in China increased sharply, but their age structure has also undergone specific changes: after leaving the registered permanent residence, migrant workers in cities initially Young people are mostly single, and now they are gradually developing into family migration. Since a considerable number of the mobile population is leaving the town with their families, their children also leave the registered permanent residence and the original place of education. According to the “Law of the People’s Republic of China on Compulsory Education,” compulsory education is managed by the local government at different levels. Compulsory education for school-age children is mainly handled by the government of their registered permanent residence, and education funds are allocated according to the number of registered permanent residence students. In this case, when children move to cities with their parents, the registered permanent residence government can no longer be responsible for their education, and the local government is not obliged to provide them with education and school. Therefore, when migrant workers’ children leave the registered permanent residence, they cannot enjoy the educational resources of the place they migrated.

In addition, affected by factors such as distressed economic conditions, low level of education, unstable work, and high mobility, migrant workers are mostly weak and marginal in integrating with urban life. They cannot guarantee that their children receive complete and high-quality basic education and even higher education, but out of a strong desire to change their living conditions, they have more urgent educational needs (Zhang, 2015).
In this context, the education of migrant workers’ children is a problem that will inevitably arise in the process of China’s urbanization and the transfer of rural surplus labor, and it is also one of the livelihood focal points that are increasingly being discussed in the society. With the widespread concern of all sectors of society, some domestic scholars have also begun to research the education of migrant children. This research uses the relevant documents included in the China National Knowledge Infrastructure (CNKI) and academic paper databases such as Wanfang Data and the quantitative analysis method software CiteSpace to organize and analyze this research field in recently decades. At the theoretical level, it enriches research on the education of migrant workers’ children and provides directions and references for subsequent theoretical research and related policy formulation and implementation.

Research Hotspot Analysis

Unlike the urbanization process of Chinese society, after the second industrial revolution, the population moved freely between countries and regions, and countries did not take mandatory measures to restrict migration. Children of “international migration” personnel who frequently move between countries and regions also enjoy the same educational conditions as children of local personnel. Therefore, there is neither a particular group of “migrant workers” nor research on migrant workers’ children’s education in research outside of China. Therefore, “migrant workers” can be said to be the only product of Chinese society’s urbanization process, so this study mostly uses China’s research literature.

By the end of November 2, 2020, a total of 790 articles were retrieved in databases such as CNKI and Wanfang Data using “migrant workers’ children” as the keyword. From the keywords’ chronological order, we can draw this field’s research trend in the past two decades. It is not difficult to find that the research on migrant workers’ children began in 1998. Since 2002, the number of publications has risen sharply, reached its peak in 2013, and then gradually leveled off.

Discipline Distribution of Research

From the perspective of discipline distribution, 45.9% of the literature discusses the hot topic of migrant workers’ children’s compulsory education in conjunction with related education theories. Secondly, 15.8% and 11.04% of the literature analyzed the status quo of migrant workers’ children receiving primary education and higher education. Third, there are also a small number of studies that follow the ideas of sociology, psychology, talent science, and labor science. In general, research conducted with education occupies half of all the literature. The education of migrant workers’ children of different ages has aroused numerous discussions among experts and scholars.

Research Subject Analysis
At the research level, researchers at the higher education level have become the leading group in this research field, covering 89.1% of all the literature authors, reflecting the high degree of concern for migrant workers’ children in academia. Besides, basic education level researchers represented by elementary and middle school teachers have also shown corresponding interest in research around migrant workers’ children, accounting for 6.1% of the existing literature. The remaining 4.8% of the researchers are from the General Office of the State Council, which showed that the education of migrant workers’ children is closely related to the formulation of specific policies. The realization of educational equity is also inseparable from the State Council’s allocation and adjustment of educational resources. Solving the education problem of migrant children should be the result of multiple factors.

**Hot Spot Analysis of Research Fields**

According to the subject distribution results of the database search, in addition to the keywords “migrant workers” and “migrant children” used in the search, the main themes with the highest frequency are “compulsory education,” “Ministry of Education,” “children education” and “learning habit.” Secondary themes focus on social issues such as “public schools,” “education equity,” “private schools,” and “migrant workers children’s schools.” As a result, whether migrant workers’ children can receive education fairly and equitably, especially in compulsory education, has become a top priority for Chinese scholars (Table 1).

This study systematically reviews and summarizes the research results on the education of migrant workers’ children from education based on defining related concepts.

**Related Concepts**

**Migrant Workers**

Regarding the definition of “migrant workers,” so far, there has not been a unified, widely recognized, and acceptable concept in academia and this concept has been continuously enriched and supplemented with the development of the times.

For example, Duan (1998) defined “migrants” and “migrant workers” from the perspective of management. The migrant population refers to those who live or stay in the local area for an extended period or the population in surrounding towns and towns without a local household registration. They do not include those in the “mobile population” who migrate from local to other regions. However, “migrant workers” have a fixed occupation and corresponding income among the migrant population.

Zuo (2014) mentioned that under the dual urban-rural system, the society and economy are making rapid progress, which stimulates the emergence of migrant work...
ers. Therefore, in theoretical research, it is generally mixed with migrant farm workers and migrant workers. However, with the development of society, the term “migrant farmer worker” is discriminatory. After 2007, the Chinese government officially changed to “migrant workers” in the document.

**Migrant Workers’ Children**

Similarly, there are many similar titles about “migrant workers’ children,” such as “migrant farmer worker children,” “farmer worker children,” “rural worker children,” “rural oriented children,” “mobile student,” “mobile children” and many more.

National and local governments will also explain the characteristics of this group in relevant documents. For example, in 2012, the General Office of the Jiangsu Provincial Government “Notice of the Children of Workers Coming to Jiangsu to Take the Entrance Examination”\(^5\), defined the scope of “migrant workers’ children” as: Nanjing migrant workers’ children specifically refer to children who are within the stage of compulsory education and follow their migrant parents or legal guardians, school-age children and adolescents who have temporarily come to Nanjing but without a registered permanent residence. It does not include the children of migrant workers whose household registration is in the city.
Based on government documents, scholars have elaborated on the connotation of “migrant workers’ children.” For example, Zhou (2016) believed that migrant workers are non-local migrant workers, including migrant workers and all kinds of migrant workers in non-registered permanent residence cities.

Wang (2019) believes that the concept of migrant workers’ children has two levels of meaning. The first meaning refers to the children of migrant workers born in the city or minor children who follow their guardians to study and live in the city. The second meaning refers to the left-behind children of migrant workers, minors whose guardians work and settle in other places, and their children stay in their registered permanent residence and receive local education.

Based on this, there is no unified expression for the scope of the group of “migrant workers’ children,” the nature of work, and the age division of the children. However, there is a high consistency in some characteristics, such as migrant children whose parents are not in the city where they work, and their children have not reached maturity.

**The Education Status of Migrant Workers’ Children**

According to the “2019 Migrant Worker Monitoring Survey Report” of the National Bureau of Statistics of China, 50.9% of migrant workers report that migrant children face some problems in urban schooling, especially in the stage of compulsory education, due to the difficulty of local education and high costs, which caused the migration Children’s schooling problems (China Statistics Bureau, 2020). Migrant children generally go to three types of schools in migration: public schools, schools for migrant children, and private schools. However, private schools charge high fees and often reject many children from low- and middle-level migrant workers’ families. Therefore, most migrant children enroll in schools for migrant children or enter urban public schools by paying the borrowing fee (Xie & Xiang, 2019).

**Research on the Acceptance of Migrant Workers’ Children in Public Schools**

After migrant workers and their children enter the city, they cannot enjoy various national treatments (such as education rights, labor security rights, etc.) because their household registration is still in their original residence. If the children of migrant workers still have to receive compulsory education in the place of migration, they have to use some unconventional means, such as paying borrowing fees and sponsorship fees. The direct consequence of the fees is that some students are out of school due to limited family financial affordability or deterioration of family economic conditions (Mak & Zheng, 2018). Therefore, in the early research, a large number of empirical research investigations showed that migrant workers’ children have difficulties in entering public schools in the places where they moved (Lv, 2012; Chen & Wang, 2016), and even abnormally school-age severe children drop out of school (Chen, 2007; He & Li, 2007).
After investigating the enrollment of public elementary schools in Hangzhou, Wang (2019) stated that the scarcity of high-quality educational resources had made migrant workers’ children’s educational opportunities, who are already deficient in family resources, more unequal. Public schools sometimes cannot even guarantee the attendance of local children. Out of helplessness or for better educational opportunities, children of local residents choose private schools to complete compulsory education. However, the high tuition and accommodation fees of high-quality private schools require tens of thousands to hundreds of thousands a year, which discourages the children of migrant workers.

**Research on the Acceptance of Children in Schools for Migrant Workers**

The school for children of migrant workers first appeared in China in the 1980s. It is the product of the era when the society has developed to a certain period in order to alleviate the scarcity of educational resources and protect the right to education of school-age children. Schools for children of migrant workers are mostly located in urban-rural fringe areas, mobile population gathering areas, and low-rent areas. In the early days, due to the lack of sufficient funds, the school buildings of these schools were mostly rebuilt or built, without sufficient lighting and crowded classrooms, and the schools lacked necessary teaching and sports equipment (Yang & Tao, 2007); the source of teachers was complicated, and most of them did not have teaching experience, and teaching quality is generally not acceptable (Wang, 2012); and some schools still have hidden dangers in food safety, traffic safety and fire protection (Lou, 2009).

Even though the teaching environment is rudimentary and the teaching quality is low, private migrant worker schools have low entry barriers, low tuition, and flexible charging methods. Therefore, every year, many migrant children are enrolled in these schools. It can be said that private schools for children of migrant workers undertake some essential tasks of compulsory education for migrant children (Ma & Sun, 2007). This phenomenon has gradually attracted social attention. Scholars call it the “self-help” grassroots organization of migrant worker children’s compulsory education (Han, 2001).

However, with the expansion of demand, a market-oriented “profit-seeking” phenomenon has appeared in the field of migrant workers’ children’s compulsory education. This is a manifestation of the alienation of compulsory education, utterly contrary to the basic concept of compulsory education. Subsequently, the Chinese government successively issued relevant documents to regulate private schools for children of migrant workers.

The “Measures for Schooling of School-age Children and Adolescents in Urban Mobile Population (Trial)” promulgated in 1996 stipulates that migrant children should mainly study in full-time elementary and middle schools, and those who enter without conditions can receive non-formal education. By 2019, the “Ministry of Education’s 2019 Work Points” proposed to improve the enrollment policy of migrant chil-
child compulsory education based on residence permits. For existing schools for children of migrant workers, relevant departments must gradually incorporate them into legal and regular channels on the basis of ensuring that public schools accept migrant children safely and securely and provide certain financial subsidies and assistance according to the actual situation. Thereby ensuring the quality of education and teaching in schools for children of migrant workers (Wang, 2018).

It can be seen that the Chinese government gradually pays attention to the education of migrant children and strives to protect the enrollment and advancement rights of migrant worker children. On the one hand, China proposes a “two-oriented” policy: “focusing on management in the place of migration, focusing on public schools,” and gradually let the children of migrant workers receive compulsory education for free in the place of migration. On the other hand, migrant workers and children are accepted through multiple channels and methods of running schools. As of the end of 2019, 78.9% of China migrant children are studying in public schools; 3.849 million migrant workers are studying in middle schools (Ministry of Education of the People’s Republic of China, 2020). Therefore, the pattern of mainly receiving migrant children from public schools has taken shape, and education’s starting point improves (Lu, 2016).

Research on the Problems Existing in the Education of Migrant Workers’ Children

Migrant workers have a strong need for their children to receive public education and quality education. However, the lack of total education supply and the structural contradiction between supply and demand have caused many migrant worker children to receive education in migration cities.

Research on the Educational Resources of Migrant Workers’ Children

Unequal Access to School

Pan (2017) proposed that due to the bias of the dual household registration system, this system takes stability and order as the first element in its value demands, and artificially divides society into two unequal classes in terms of rights and obligations, and invisibly deprived the children of migrant workers of equal rights to compulsory education. Wang (2012) believed that the children of migrant workers who go to school in the city face various entry thresholds, such as temporary registration certificates, household registration certificates, real estate certificates, tax payment certificates, social security certificates, family planning certificates, etc. In the context of “certification to work,” the children of migrant workers who want to obtain sufficient educational resources can only continuously meet the various conditions set by the local government.
Xu (2019) analyzed that because the children of migrant workers mostly live in the fringe areas of urban and rural areas, such areas lack public education resources. In order to meet the needs of nearby schools, some children of migrant workers were sent by their parents to private migrant worker children’s schools to study. However, most private schools for children of migrant workers simply cannot meet the requirements of private schools’ approval standards and are in a situation of illegally running schools. These schools are often very simple and mobile. Not only the quality of education is worrying, but it also brings difficulties to the unified supervision of local education departments. Therefore, it is not easy to ensure that the vast majority of migrant worker children have the opportunity to receive an education.

**High-Quality Teaching Resources Cannot be Guaranteed**

Because migrant workers live in relatively concentrated areas, and most of them live in the fringe of urban and suburban areas, the contradiction between a large number of students and a shortage of educational resources is unprecedented, which makes the phenomenon of a regional shortage of educational resources very prominent (Li, 2011). Besides, the starting point of these children’s education is lower than that of students in the place of migration, and the learning status of migrant children is far from that of local students.

Tian et al. (2008) showed that teachers’ sources in private migrant worker children’s schools are complicated, especially those who have not been approved for private migrant worker children’s schools. 47.7% of teachers were engaged in the business and service industries before they started teaching. This also reflects the current situation of weak teachers in private migrant worker schools.

Xu (2012) also mentioned significant differences between migrant worker schools and public schools in all aspects, whether it is necessary teaching facilities or teachers, the gap is pronounced, and the quality of teaching is difficult to guarantee.

**Poor Education Results**

In the case of insufficient educational resources, the education results of migrant children are also worrying. Zhou & Hu (2011) mentioned in the study that the Ningbo Municipal Education Authority conducted a sample inspection of the teaching quality of migrant worker schools in the city, and found that the average score of students in public schools in Ningbo was 80, and the pass rate was 85%, while the average score of migrant worker children’s schools was 69, and the pass rate was only 71%.

Wang & Xu (2020) conducted a survey using a student questionnaire, parent questionnaire, and interview outline. During 2017, a field survey was conducted with 3,677 fifth- to eighth-grade students from 20 schools in four mobile population cluster cities of Hangzhou, Zhongshan, Guiyang, and Wuhan in China. The survey results showed that under China’s territorial education management system, the government of
the place of migration restricts the upward mobility of migrant children through an unequal distribution system of educational opportunities, and the migrant children ultimately directly report back in the form of academic failure. In this study, Wang also conducted a follow-up survey on the migrant children of Wuhan DC Middle School, where they graduated from junior high school. The results showed that among the 68 students in the two classes, 15.9% did not continue to study, 68.2% were in secondary vocational schools, and 6.8% went back to their hometown to attend high school, 9.1% stayed at the place where they migrated to attend high school.

**Issues Concerning the Education Management of Migrant Workers’ Children**

**Difficulties in Student Status Management Caused by Frequent Mobility**

Zhang (2013) pointed out that migrant workers’ children are highly mobile and difficult to manage student status. Even the parents of some halfway transfer students did not communicate with the school at all. The students were still in class the day before but would not come to class the next day. There are also some migrant children, who entered public schools because of some irregular procedures, but they just borrowed in public schools and did not have a school status; some schools used the method of establishing temporary school status for migrant children to manage them dynamically, but they had not achieved the desired effect. On the contrary, the workload of teachers was increased. Also, in schools for children of migrant workers who were not qualified to run a school, some students had no school status, and some students had their school status in the registered permanent residence school. The current school had only established a registration form for the basic situation of the student. The management of migrant children’s school status makes the relevant departments very troubled.

**Teaching Management Difficulties**

Li (2020) mentioned that school-age children in local cities have an educational advantage and belong to an advantageous learning group. The mainstream culture recognized by migrant workers’ children deviates from the city’s inherent values, and they belong to a foreign group. In addition, migrant children are limited by their living environment and living conditions. They have few new things, and their knowledge is relatively narrow; the backward education level limits some in rural areas, and their life experience and tendencies will conflict with the content of urbanization courses. The inability of rural students to integrate leads to the inability to carry out pre-class preparation activities and after-class extension activities or complete poor results. It is diffi-
cult for these students to participate in classroom activities, so teacher teaching management is complicated (Wu, 2020).

Besides, migrant workers’ children lack good learning and behavioral habits and generally have the characteristics of irregular behavior and freedom, such as non-obedience to classroom discipline and major tardy problems. At the same time, their ideological level is low; moral quality is not high, they have undeniable adverse moral transfer problems and “marginal personality” problems; mood swings are volatile, and their thinking is more sensitive, which also affects the regular order of teaching management (Jin, 2019).

**Research on the Education Integration of Migrant Workers’ Children**

Integration is a mutual and two-way process, and integration and alienation are relative terms. It is a social relationship network established by each individual with family, friends, classmates, and other groups. Individuals have corresponding relationships and integration through these relationships and networks (Wang, 2018).

Wang (2013) believes that the integration process of migrant children in the city is not smooth. There are also various contradictions in school integration, mainly manifested as conflicts between classmates, discreet teacher-student relationships; weak learning ability; and low future development.

When migrant workers’ children transfer from rural to urban areas, their living and learning environments are very different from before, of which will bring spiritual shocks to these children. In the face of new teachers and classmates, new learning environment, and learning content, they are also a psychological gap between students in other cities because of their clothes, school supplies, and other conditions, causing their low self-esteem. Besides, frequent mobility can make children feel insecure and belonging (Li & He, 2015).

In addition, compared with urban students, the learning ability of migrant workers’ children is inherently in a relatively weak position. They have not developed good study habits since the elementary school level. The lack of learning methods and operational guidance, and timely intervention by parents or teachers, often makes them lose clear learning goals and constructive learning motivation, which makes it easier for migrant workers’ children to develop inferiority and self-control low ability, weak will-power, strong guard mentality, and other destructive phenomena. It is challenging to integrate into the class group’s study life, which intensifies the migrant workers’ children’s learning-weariness (Wang, 2019).

**Research on Family Education of Migrant Workers’ Children**
Migrant workers’ children live with their parents in the city, and their parents have to assume family education responsibility. Family education plays a vital role in cultivating students’ awareness of norms and correct study habits. In practice, family education and school education are often incompatible and even lag behind school education.

Wang (2019) pointed out that although nearly 60% of migrant workers adopt democratic education methods for their children, nearly 40% of parents who approve of authoritarian education still use extreme education methods such as beating, scolding, and corporal punishment, which undoubtedly grows insecurities and worries of the child. Also, because migrant workers are generally eager to become talented, there are often phenomena such as “emphasizing intelligence and neglecting morality” and “emphasizing scores and neglecting ability” in their children’s education. When communicating with children, the topic is single, and leisure life projects such as outdoor play, reading, and newspaper reading for children to expand their horizons are rarely arranged. They only focus on academic performance and neglect the cultivation of children’s comprehensive literacy. Even if some parents agree on the importance of cultivating children’s mental health and thinking ability in their ideology, they have little strength in a specific implementation, and it is not easy to follow through (Lv, 2012).

At the same time, Lu (2016) found that 70% of the parents of migrant children believe that they have a close relationship with their children and talk about everything, but only 13% of migrant children will tell their parents what they are saying. It can be seen that the relationship between migrant workers and their children is not as seamless as they perceive. Such a parent-child relationship will inevitably affect the implementation results of family education. Many migrant workers have no time to take care of their children’s education because of their busy lives, and their investment in children’s education is insufficient (Pan, 2020).

Limitations and Thinking of Existing Research

This article focuses on the research results of migrant worker children’s education issues and analyzes and perspectives the status and problems of migrant worker children’s education from different perspectives. It is hoped that it can provide a basis for all sectors of society to gain insight into the children of migrants’ schooling situation and provide a reference for governments at all levels to formulate and adjust relevant regulations. Of course, we also see that there are still deficiencies in current research, and the discussion of these deficiencies is to provide directions for our future research.

First, the research theme still needs to be deepened. Most of the existing studies have explored the difficulties of migrant workers’ children receiving compulsory education and the low quality of education. However, there is less discussion about their follow-up education and development channels.

Second, the research content has yet to be enriched. The academic research on migrant worker children’s education equity mostly focuses on the macro level and rarely involves specific learning and educational activities. For example, are the children of migrants and urban students having equal opportunities for academic success? Do
teachers give equal treatment to students with different family backgrounds, learning abilities, and education levels in teaching activities?

Third, research perspectives need to be more diversified. Most of the existing research is carried out from education, focusing on investigating facts and analysis of phenomena. The education of migrant workers’ children is related to the vital interests of migrant workers and their children and the coordinated development of urban and rural areas, and social stability. Therefore, it is not enough to just float on the surface. It is currently necessary to carry out multidisciplinary analysis and turn to theoretical research to reveal the essence of the problem (Cai, 2004).

Fourth, research methods need to be more scientific and rigorous. Judging from the existing research, the research methods are mostly based on descriptive analysis such as questionnaire survey and interview methods, and lack of rigorous scientific empirical research. The only empirical research literature does not exclude factors such as one’s grade and age that may cause differences in psychology, physiology, and learning, so it is difficult to get convincing conclusions.

Fifth, the research sample size is not representative. However, some studies use sampling survey methods to analyze samples of migrant worker children in a particular school or a specific district. However, the conclusion still appears weak to decision-makers. Some studies have also extended the overall coverage to multiple counties and villages in multiple provinces and cities. Although the generality of the research conclusions has been dramatically improved, some documents do not explain the specific details of sampling and the detailed results of sampling surveys. Therefore, it is difficult for us to judge whether the results can infer the totality (Lu & Chi, 2008).

From the perspective of social mobility, scientific and orderly mobility is an integral part of society. Social mobility directly promotes economic development and social evolution (Yue & Yin, 2020). These weaknesses of migrant workers have, to some extent, caused unfairness in the education of their children. The children of migrant workers maintain their parents’ identity and status and are disadvantaged in the overall social interest structure. Paying attention to this substantial disadvantaged group’s education problems is of great significance to promoting educational equity and social development. To this end, the Chinese government is also making continuous efforts to satisfy the fundamental education rights of migrant children through policy inclination or reform. This is not only an unshirkable responsibility of the government, but also a vital driving force for promoting educational equity and social development. This paper only studies substantial compulsory group’s education problems of migrant workers’ children and produced more research results on the causes and countermeasures of the problems. In future research, on the basis of fundamental research, we will use a multidisciplinary perspective and a combination of multiple methods to make this research increasingly significant and practical.
Notes

1. Migrant Workers: refers to those still in rural areas with their household registration and work locally in non-agricultural industries or work for six months or more during the year.

2. Local migrant workers: refer to migrant workers who work within the township area where their household registration is located.

3. Out-of-Town migrant workers: refers to migrant workers who work outside the township area where their household registration is located.


References


Chang & Bu. The Compulsory Education Status of Migrant Workers’ Children in China.


Received: 28 October 2020
Revised: 03 December 2020
Accepted: 14 December 202