

The Issue of Rural-Urban Gap in Taiwan's Education

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Abstract

While researchers have recognized that “rural-urban gap” has become a serious problem in Taiwan’s education, little attention has been paid on how to solve this problem. Therefore, I try to not only explore what causes the gap between urban and rural area, but also find out possible solutions. After analyzing data collected from 295 junior high schools, the researcher finds eight factors that cause rural-urban gap, including, teacher resources, hardware equipment resources, student learning attitude, culture stimulation, educational expenditure, the number of books collection, teaching styles of parents, and family income. The latter four factors are rarely mentioned in the past literature.

Using case study and interviewing 32 people, the researcher finds out some solutions to solve “rural-urban gap”. (1) Writing competitive project can help schools to strive for more educational expenditure; (2) teacher self-enhancement can improve “teacher resources” in rural areas; (3) schools can apply for bookmobile project, to increase books collection; (4) cooperating with enterprises can gain more hardware equipment resources; (5) flipped education can improve student’s learning attitude; (6) home visit can help teachers to understand student’s family condition; (7) cooperating with NGOs, such as AIESEC, can stimulate student’s culture perspective. The study not only contributes to the theory of equality of educational opportunity, but also offers some practical suggestions to schools, especially in rural areas.

Key words: rural-urban gap, junior high school, equality of education opportunity, resources

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INTRODUCTION

Background

In modern times, the issue known as the “rural-urban gap” has become prevalent throughout Taiwan, especially affecting rural areas. According to China Times, the grade of the Comprehensive Assessment Program for Junior High School Students in Nantou City has differences between urban and rural areas.¹ In the urban Chung Hsing Junior High School, 89 people received “grade A”, and 9 people received “grade 5A++” for all subjects; comparing to the rural Min-He Junior High school, the best score received is “4B1C”.² However, the principal in Min-He Junior High school believes this is due to different environment plus the outflow of the student who have good grade, which causes the grade of the Comprehensive Assessment Program for Junior High School Students to be of lower standings.

From this fact, we can figure out that the students in urban areas has good academic achievement, compared to the school in rural areas. Moreover, the researcher thinks that the reason for the difference between urban and rural schools is because the student especially in rural areas do not have sufficient educational resources, and opportunities to learn. However, the researcher wants to understand more about the causes influencing the rural-urban gap in order to develop effective solutions.

Motivation

According to the professor, R.C.T Lee, the negative effects of the “rural-urban gap” in Taiwanese education has become very serious. According to the Comprehensive Assessment Program for Junior High School Students, approximately

¹ 沈揮勝, "城鄉落差大 這廂 5a 滿天飛、那廂全校 1a 難求," *中國時報* 2018.

² Ibid.

30% of Taiwanese students will get grades of “C” every year in English and Math. However, this problem becomes more prominent in rural areas where over 30% of Taiwanese children will get grades of “C” every year in English and Math.³

Professor R.C.T Lee also points out that in modern times, the rural-urban gap has appeared in regard to cultural stimulation.⁴ Children in urban and rural areas are different in this aspect. For example, children in urban areas will often attend a concert for classical music or visit a museum. In contrast, children in rural areas seldom have similar opportunities to obtain these types of atmospheres.⁵ The causes of these differences stem from the influence of children’s parents. Parents in urban areas will often take their children to listen to classical music or visit a museum. However, work often interferes for parents in rural areas making it difficult for them to take their children to these types of events.

From the viewpoints of R.C.T Lee, it is evident that the rural-urban gap is especially displayed itself in rural areas. Moreover, these viewpoints imply rural areas are lacking in cultural stimulation, family background, and available resources. However, in this research, the researcher utilizes different perspectives of the principal, director of academic affairs, homeroom teacher, subject teacher, parents, and students to analyze different strategies or solutions. To solve the problem of the “rural-urban gap”, the researcher focuses on seven factors: the educational expenditure, educational resources (teacher resources, especially Teacher-pupil ratio), the amount of books collection, hardware equipment resources, student learning attitudes, teaching styles of parents, and cultural stimulation.

³ 李家同, "教育部有責教好偏鄉孩子," <https://gvlf.gvm.com.tw/article.html?id=72566>.

⁴ "文化刺激的城鄉差距," 聯合報民意論壇,
<http://erdos.csie.ncnu.edu.tw/~rctlee/article/890223.htm>.

⁵ Ibid.

Research Purpose

The purpose of this study is to understand why “rural-urban gap” has showcased itself in Taiwan. In addition, this research uncovers the factors that influence rural-urban gap through case study. Through these discoveries, the researcher finds solutions that can solve various educational problems plaguing many rural areas.

Research Questions

1. What kind of factors are displayed in the “rural-urban gap”?
2. How can we solve the “rural-urban gap”?

Contribution

In order to understand the perspectives of rural-urban gap, the researcher utilizes interview to investigate more about the information. From this research, we can find out that there are eight factors that influence rural-urban gap, including educational expenditure, teacher resources, the amount of books collection, hardware equipment resources, student learning attitude, teaching styles of parents, cultural stimulation, and family income. According to past research from Bo-Wei Hu (2015), Jing-Yi, Lin (2017), Pei-Lun, He (2018), and Mei-Hua, Li (2005), they point out that educational resources (teacher resources, hardware equipment resources), and student learning attitude has an influence on student’s “academic achievement”.

From past research, the researcher only discussed about the influences of student’s academic achievement, and do not discuss about the solutions to solve this dimension. There are six main strategies that can help rural areas to narrow down the rural-urban gap, including writing competitive project, home visit, cooperating with NGOs, teacher self-enhancement, apply for bookmobile from the local libraries, and through the courses of “world vision”.

1. “Competitive project” allows the school to apply for funds through ways of

- competition, such as a reading competition
2. "Home visit" means that in order to deeply understand the student's family status, the homeroom teacher will adapt for this way.
 3. Cooperate with NGOs, such as TFT, and AIESEC, which means that the schools will recruit volunteers for teacher education, and introduce these volunteers into rural areas or remote areas to teach the students.
 4. "Teacher self-enhancement" means that through participating in the workshop held by the Education bureau or the school, can help them broaden their knowledge and enhance their teaching ability or styles of teaching.
 5. "Bookmobile" not only can increase student's learning ability and their interest of reading, but also can increase the amount of books collection of the school.
 6. The courses of "world vision" not only can let the student understand the geographic location, wearing, and traditional custom of each country, but also help the student to increase their culture stimulation.

Therefore, through these six solutions, which can not only help the rural areas to decrease the rural-urban gap, but also can make up for the insufficiency of the past research.

Limits

Due to time limits, the researcher only analyzes the junior high schools in a limited number of cities in Taiwan including Keelung, Taipei, New Taipei, Hsinchu, Miaoli, Taichung, Changhua, Chiayi, Kaohsiung, Hualien, Taitung, and Penghu city.

Delimits

In Taiwan, there are about 913 junior high schools, including 212 schools in rural areas.⁶ Due to the time limit, in this research, the researcher adopts for 295 schools in

⁶ 教育部, "各級學校校數、班級數、學生及畢業生人數、教師人數及生師比," (教育部統計

Keelung, Taipei, New Taipei, Hsinchu, Miaoli, Taichung, Changhua, Chiayi, Kaohsiung, Hualien, Taitung, and Penghu city. Moreover, for many limits, the researcher tries to find every city government's data, and every junior high school's website to find out the district level of family income in each city and the educational expenditure in every junior high school in Taiwan.

LITERATURE REVIEW

The Theory of Equality of Educational Opportunity

According to James S. Coleman, the concept of “Equality of Educational Opportunity” is originally started from the identity of the child in society. In the article of his paper, he points out that in pre-industrial Europe, the thoughts of the children are limited in his or her family.⁷ That is if the work of the children’s father is a fisherman, or farmer, the children’s future job will inherit his father’s work. Coleman also points out a crucial element is that the family members, who provide an environment for the children to learn the things he or she needed to know.⁸ From this crucial element, we can figure out that in that period of society, children’s “equality of educational opportunity” is not that relevant because the mentality of the parents is that children do not need to have education, they just need to be a “tool for family production.” This kind of “social structure” has not changed since before the industrial revolution.

Moreover, because of the economic organizations that arose in that period, the children began to work outside of their family.⁹ As we can see, in this situation, their family lost the core of their economic productivity. However, their family hope that they can learn general skills to facilitate their future job. In early 19th century, Europe and America began the foundation of the public education.¹⁰ In the United States, they do not have the traditional class structure. Free school supported by the public began in early 19th century. However, in England, their school was called “voluntary

⁷ JAMES S. COLEMAN, "The Concept of Equality of Educational Opportunity," (JOHNS HOPKINS UNIV., BALTIMORE, MD., 1953).

⁸ Ibid.

⁹ "The Concept of Equality of Educational Opportunity.," (JOHNS HOPKINS UNIV., BALTIMORE, MD., 1953).

¹⁰ "The Concept of Equality of Educational Opportunity."

schools” because the school was organized by churches, and until the Education Act of 1870, the school has got the support by the states.¹¹

Furthermore, as Coleman points out that national school has become the lower school of the working class, which curriculum is completely different from the voluntary school of upper class.¹² On the other hand, in his paper, he figures out four main points for “Equality of Opportunity”¹³:

- 1) Providing a certain level of “free” education, which is the main entry point for the labor force.
- 2) Providing a typical curriculum for all students, no matter their background.
- 3) Because of the density of the population, providing children in different background to attend “same” school.
- 4) Providing equality for the student in the rural or remote areas, since the tax support local schools.

From the findings of Coleman, we can deeply understand the inequality of distributing the educational resources, the allocation of different classes for different student backgrounds, and the difference of curriculum for low background students. Moreover, the most important is these factors are the causes of “rural-urban gap”. Nevertheless, in this research, the researcher not only finds out the reasons, which affect the “rural-urban gap” by qualitative analysis, but also figures out the strategies, which can solve in the dimension of school, especially in rural areas.

The Impact of the “Rural-Urban Gap”

In the past, there are some scholars, who discuss the issue of “rural-urban gap”, such as R.C.T Lee, or Lingxin Hao, Alfred Hu, and Jamie Lo. What’s more, according

¹¹ Ibid.

¹² "The Concept of Equality of Educational Opportunity," (JOHNS HOPKINS UNIV., BALTIMORE, MD, 1953).

¹³ Ibid.

to the definition of “rural-urban gap” in Construction and Planning Agency, Ministry of the Interior, who points out that if the population of that city is 20,000 people or 25,000 people, which means “urban areas”; if the population of that city is 3,000 people or more than 1/3 in five years, which means “rural areas”.¹⁴ From this definition, we can know that the boundary of the population can be one of the measurement indices in “rural-urban gap”. However, in this part, the researcher will use different aspects to investigate “Academic Achievement” in rural-urban gap, including social network, learning attitude, educational resources, and family background.

From “Social Network” to investigate “Academic Achievement” in Rural-Urban Gap

According to a researcher, Bo-Wei Hu, who did the research on “Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-2007”. Moreover, in his research, he utilized two effects, one is cluster effect, and the other is neighborhood effect, to analyze whether or not the rural-urban gap has influenced on educational expansion. In our research we found out that the most influencing effect is the “neighborhood effect”. Conforming to the definition in Bo-Wei Hu’s research, it means that the society’s environment of the neighbor may change the self-expectation for education or expectation to his or her career, gradually influencing the Academic Attainment. However, the socioeconomic status of the neighborhood still significantly explains the academic achievements of the student.¹⁵

And, from the perspective of peers between the students, there is research that

¹⁴ 邱雅雯, "台灣地區都市化程度與垃圾量關係之研究 a Study on the Relationship between Urbanization and Garbage Clearance in Taiwan" (2012).

¹⁵ 胡伯維 Bo-Wei Hu, "群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-2007," (2015).

shows that the urbanization degree not only will directly influence the learning engagement between students and peers, will also indirectly influence the academic performance of the student through the learning engagement among the peers.¹⁶ Furthermore, the behavior performance of the peers in their class will create some contextual emotion, in which this kind of atmosphere will strongly influence the student's learning performance.¹⁷ The researcher of this research thinks that from these two papers, no matter the neighbors or peers, they will significantly influence the student's academic achievement because of the learning atmosphere between each other.

From "Learning Attitude" to investigate "Academic Achievement" in Rural-Urban Gap

In our education and cognition, the researcher thinks that "learning attitude" is an important factor, which will strongly influence the student's academic achievement because if you have a good learning attitude, all your effort will affect your academic performance. Furthermore, in past research, it shows that the higher the student's learning engagement, the better the learning performance.¹⁸ "Learning performance" is always an important issue in the sociology of education, among them, the gap in learning performance between urban and rural areas is taken seriously.¹⁹ In addition to knowing the importance of "learning attitude" in urban and rural areas, currently the government, some private institutions, and enterprises help to promote the

¹⁶ 林靜怡, "班級同儕學習投入與數學表現的城鄉差距-階層線性模型的分析 Uran-Rural Differences in Peers Engagement and Mathematics Performance: An Analysis of Hierarchical Linear Modeling " (2017).

¹⁷ "班級同儕學習投入與數學表現的城鄉差距-階層線性模型的分析 Uran-Rural Differences in Peers Engagement and Mathematics Performance: An Analysis of Hierarchical Linear Modeling " (2017).

¹⁸ "班級同儕學習投入與數學表現的城鄉差距-階層線性模型的分析 Uran-Rural Differences in Peers Engagement and Mathematics Performance: An Analysis of Hierarchical Linear Modeling ".

¹⁹ "班級同儕學習投入與數學表現的城鄉差距-階層線性模型的分析 Uran-Rural Differences in Peers Engagement and Mathematics Performance: An Analysis of Hierarchical Linear Modeling " (2017).

equality of learning opportunity in rural-urban areas. Their strategies are only accompaniment after class, training for teachers in rural areas, and raising some supplies.

Conforming to the data shown on the TEPS, Taiwan Education Panel Survey, they found that in the TEPS newsletter No.15's report, the number of students in junior high school and senior high school that participated in school work guidance, tutor, and tutoring inside and outside campus.²⁰ No matter the number of people or time, they all have a rural-urban gap. Underneath is the data of the number of people, who participated in school work guidance, tutor, tutoring inside and outside campus:

	None	>4 hour	4~8 hour	>8 hour
Rural	29.2	27.9	20.3	21.8
County	28.4	26.8	25.1	19.2
Urban	24.7	23.9	26.3	24.5

Table 1. The statistics of the number of people who participated in school work guidance, tutor, tutoring inside and outside campus

Sources: Taiwan Educational Panel Survey, Mar. 17, 2009

From the table 3., we can figure out that the people who lives in rural and county areas have the higher proportion in none and less than 4 hours, compared to urban areas, the proportion is 29.2 and 27.9 in rural, 28.4 and 26.8 in county, and 24.7 and 23.9 in urban. In this research, the researcher especially finds out this phenomenon through interviewing the school's principal, director of academic affairs, homeroom teacher, or teacher. The interviewees point out that the strategies for solving this problem are using "flipped education", through participating "domain characteristics" activities, or through grouping learning courses. The researcher believes that as long as the students themselves are willing to put in effort, and try to change their "learning attitude", they will improve a lot.

²⁰ SWADMIN to TEPS, 03/17, 2009, <https://reurl.cc/ldgjgl>.

From “Educational Resources” to investigate “Academic Achievement” in Rural-Urban Gap

In past research, there are some scholars, who discuss the problem of the allocation of “educational resources”. According to the definition of “educational resources”, it means that the resources from internet, communities, and government can help school administration and simplify the teaching process.²¹ From this definition, we can clearly know that “educational resources” cover in school and community, and school teachers will utilize these “educational resources” in their work of school administration, or teacher’s teaching materials.

In this research, the researcher divides it into two parts, where one is the educational resources in the school, and the other is the educational resources in the government. Moreover, the researcher will also explain it in detail for these two parts underneath

Teacher Resources

For the teacher resources in this research, the researcher mainly investigates “Teacher-pupil ratio” and the problem of teacher effectiveness. For the part of “Teacher-pupil ratio”, in the past research, some scholars said that teachers with less student burden will indeed bring more positive results.²² Nevertheless, there is a scholar, Hanushek, who analyzed the research on Teacher-pupil ratio over the years, and points out that statistically significant studies have shown that the smaller the Teacher-pupil ratio, the more the positive effect.²³ This result means that if one

²¹ Yunusa Dangara Usman, "Educational Resources: An Integral Component for Effective School Administration in Nigeria," (2016).

²² 胡伯維 Bo-Wei Hu, "群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-200," (2015).

²³ "群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-200," (2015).

teacher has less students, the education performance of the student will become better. Furthermore, in this research, the interviewee, who is in the rural areas, points out that after “103 Academic Year”, the interviewee found out that the “teacher resources” in the rural areas are relatively stable because of the phenomenon of Sub-replacement fertility.

Another part is the problem of teacher effectiveness, there is a scholar, who points out that teacher effectiveness and the result of student’s personal behavior are closely related.²⁴ Moreover, this statement means that high-efficiency teachers can devote themselves to teaching, while allowing students to learn efficiently, in contrast to the low-efficiency teachers, who may even have a negative effect on the student’s learning. There is another scholar, who points out that the teacher effectiveness is low, especially for the teachers in the rural areas. However, in this research, there is a junior high school’s principal, an interviewee in rural areas, points out that “distribute teachers equally and have teachers in all field” because the teacher resources are very limited in rural areas, even in remote areas.

Hardware Equipment Resources

Due to resources limitation and distribution differences, which causes the problem of “digital divide”. Moreover, “digital divide” causes some students and families to not be able to easily obtain information, education opportunities, work opportunities, and low incomes.²⁵ The researcher in this research finds out that in addition to investigating the problem of “digital divide”, the problem of these “hardware equipment resources” to combine a teacher’s teaching with technology is

²⁴ 何佩倫, "城鄉差距與教師教學效能對學生數學學習成效之影響 -以 Timss 2015 為例 a Study of the Gap between Urban and Rural Areas, and the Effects of Teacher Self-Efficacy on Mathematics Academic Achievement: Using Timss 2015 Data," (2018).

²⁵ 李美華, "學校城鄉差距與學生家庭社經地位對數位落差影響之研究 -以國民中學為例," (2005).

also a problem. Through the interview, the researcher in this research understands deeply about those senior teachers who always likes to use traditional ways to teach the students, in contract to new teachers, who like to use technology to merge their teaching and let the student do “Adaptive Learning” through utilizing the “tablet computer”.

From “Family Background” to investigate “Academic Achievement” in Rural-Urban Gap

Conforming to the theory of “Maximally Maintained Inequality”, which was proposed by Raftery and Hout, they think that even if under the expansion of higher education, unless the dominant family have obtained sufficient educational opportunities, the difference in educational attainment between different classes will not disappear.²⁶ What’s more, in this research, the researcher finds out that the family background or social status in urban and rural areas have a significant difference. For rural areas, we can figure out that their lifestyle is mainly based on farming and fishing, which means that their children have less educational opportunity. In contrast to the urban areas, we also can figure out that their lifestyle is mainly based on service industry, business, or start up, which means that because of economic resources or social capital it can let the student have higher education.

From the two comparisons of rural and urban areas, we can figure out that if one family does not have a good learning environment and enough economic resources, it will influence their educational attainment in school, and gradually influence their “academic achievement”. Moreover, in the past research, there is a Wisconsin Model, which emphasizes parents’ education, career, and educational expectation, which will influence personal education attainment.²⁷ However, through the interview, the

²⁶ Hu, "群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-200".

²⁷ 林靜怡, "班級同儕學習投入與數學表現的城鄉差距-階層線性模型的分析 Uran-Rural

researcher in this research found out that especially in urban areas, the parents' expectation for children always cause them have higher pressure on getting good grades, contrary to the rural areas, it influences a lot because their parents do not have enough time to take care of their children, they will do their best to study hard.

From “Cultural Stimulation” to investigate “Academic Achievement” in Rural-Urban Gap

In past research, some scholar found that the students with lower learning grades or learning failure, most of them comes from underclass, and because of insufficient living experiences, which composed of the phenomena in cultural deprivation.²⁸ The definition of “cultural deprivation” is used to account for the educational limitations of the working-class and ethnic minority children, who lack appropriate cultural resources.²⁹ According to the interviewee in this research, who points out that especially in rural and remote areas, the cultural resources and teacher resources are lacking. From this point, we can understand that because of the insufficient cultural resources and teacher resources, rural student's academic achievements have become lower.

Differences in Peers Engagement and Mathematics Performance: An Analysis of Hierarchical Linear Modeling ”.

²⁸ 李美華, "學校城鄉差距與學生家庭社經地位對數位落差影響之研究—以國民中學為例".

²⁹ Collins Dictionary of Sociology, "Cultural Deprivation," (2020).

METHODOLOGY

In this research, the researcher wants to find out the factors that causes “rural-urban gap”, and further discuss whether “academic achievement” has differences in rural-urban gap or not. Moreover, the researcher collects 295 junior high schools in Keelung, Taipei, New Taipei, Hsinchu, Miaoli, Taichung, Changhua, Chiayi, Kaohsiung, Hualien, Taitung, and Penghu city (Appendix of the distribution for the schools in Taiwan). This chapter includes research design, data collection, measures, case study and Independent Sample t-test.

Research design

The researcher utilizes qualitative analysis to figure out the factors that causes rural-urban gap. Moreover, from the qualitative analysis in this research, the researcher interviewed 32 people, including principals, school directors of academic affairs, homeroom teachers, subject teachers, parents, students, and international volunteers. According to past research from Bo-Wei Hu (2015), Jing-Yi, Lin (2017), Pei-Lun, He (2018), and Mei-Hua, Li (2005), they point out that educational resources (teacher resources, hardware equipment resources), and student learning attitude has influences on students “academic achievement”.

Although these past researchers mentioned about how these factors will influence students’ academic achievement, they do not mention about how to solve these factors and lack validation from the statistics. Therefore, the researcher in this research collected about 295 school data, which included government data and every junior high school’s website data, and use of “Independent-Sample t test” to validate whether these factors (educational expenditure, teacher-pupil ratio, the amount of books collection, family income, hardware equipment resources, and academic achievement) has differences in rural-urban gap.

On the other hand, due to the lack of solutions put forth in past research to solve rural-urban gap, the researcher uses qualitative analysis to find out the solutions on campus and off-campus to solve the seven factors (educational expenditure, teacher-pupil ratio, the amount of books collection, hardware equipment resources, student learning attitude, teaching styles of parents, and culture stimulation). Hence, the researcher hopes to use these solutions, to make up for the insufficiency of the past research.

Data Collection

In this research, the researcher utilized two methods to collect data, one is case study and the other is using secondary data. Firstly, the researcher uses “case study” to find out the factors that causes rural-urban gap, and through interviewing 32 people on campus and off-campus to find out the solutions to solve rural-urban gap (Table 16). The reason why the researcher choose 32 people is because the researcher wants to figure out diverse aspect and solutions to solve rural-urban gap. The target audience of the interviewee has been chosen by two aspects, one is the participant’s position in school, and the other is the course subject taught by the participant. Before being chosen the interviewee, the researcher asked their willingness to be included in the study.

Last but not least, the researcher uses government data, telephone interview and junior high school data to conduct the quantitative analysis for each variable (Table 17). Moreover, the government data included department of Budgeting, Accounting, and Statistics, National Reading Promotion and Book Management System Network, Civil Affairs Department, and Department of Statistics, MOE; junior high school data, included educational expenditure, and Admission list (升學榜單). In order to understand the latest situation of rural-urban gap, the researcher adopt for the data in

107 academic year to conduct quantitative research. On the other hand, in order to understand the situation of enrollment rate in every junior high school, the researcher uses “telephone interview” to counsel junior high school.

Table 2. Interviewee lists of the Case study

Number	School Level	School Positions	Teaching Subject	On campus or off-campus
Interviewee A	Primary school	Principal	None	On campus
Interviewee B	Primary school	Principal	None	On campus
Interviewee A	Junior high school	Principal	None	On campus
Interviewee A	Senior high school	Principal	None	On campus
Interviewee A	Primary school	School director of academic affairs	Math and Computer	On campus
Interviewee B	Primary school	School director of academic affairs	None	On campus
Interviewee C	Primary school	School director of academic affairs	None	On campus
Interviewee A	Junior high school	School director of academic affairs	None	On campus
Interviewee A	Senior high school	School director of academic affairs	Chinese	On campus
Interviewee A	Senior Vocational high school	Head of Data Processing Section Department	Introduction of Computer Science	On campus

Interviewee A	Primary school	Homeroom Teacher	Chinese, and Math	On campus
Interviewee B	Primary school	Homeroom Teacher	English	On campus
Interviewee A	Junior high school	Homeroom Teacher	Social study	On campus
Interviewee A	Senior Vocational high school	Homeroom Teacher	Economy, Accounting	On campus
Interviewee A	Primary school	Subject Teacher	English	On campus
Interviewee B	Primary school	Subject Teacher	English	On campus
Interviewee C	Primary school	Subject Teacher	Math	On campus
Interviewee D	Primary school	Subject Teacher	Chinese	On campus
Interviewee A	Junior high school	Subject Teacher	English, Chinese	On campus
Interviewee A	Senior Vocational high school	Subject Teacher	English	On campus
Interviewee A	Primary school	Parents	None	Off-campus
Interviewee B	Primary school	Parents	None	Off-campus
Interviewee A	Junior high school	Parents	None	Off-campus
Interviewee A	Senior Vocational high school	Parents	None	Off-campus
Interviewee A	Primary school	Students	None	On campus
Interviewee A	Junior high school	Students	None	On campus
Interviewee A	Senior high school	Students	None	On campus
Interviewee A	Thailand	International Volunteer	None	Off-campus

Interviewee B	Malaysia	International Volunteer	None	Off-campus
Interviewee C	Germany	International Volunteer	None	Off-campus
Interviewee D	Canada	International Volunteer	None	Off-campus
Interviewee E	Italy	International Volunteer	None	Off-campus

Sources: Edited by the researcher

Variables	Sources of variables
Rural-Urban	Civil Affairs Department
Educational expenditure	Every junior high school's website
Teacher-pupil ratio	Department of Statistics, MOE
The amount of books collection	National Reading Promotion and Book Management System Network
Hardware equipment resources	Sports Administration, MOE
Family income	Department of Budgeting, Accounting
Enrollment rate	Telephone interview and every junior high school's website

Table 3. Sources of the variables

Sources: Edited by the researcher

Measures

Dependent variable

The researcher chooses “enrollment rate” as dependent variable. The reason why using enrollment rate as dependent variable rather than student grade is because according to “Computer-Processed Personal Data Protection Law”, the school cannot announce student’s personal grade in the public or private unless for special purpose. Therefore, in this research, the researcher uses “enrollment rate” to inspect student’s

academic achievement. Conforming to the department of Statistics, Ministry of Education, the measurement of “enrollment rate” is “the number of junior higher school graduates who have advanced divided by the number of junior high school graduates and multiplied by 100 %.”

Independent variable

The researcher chooses Educational expenditure, Teacher-pupil ratio, the amount of books collection, Hardware equipment resources, and Family income as independent variable. Moreover, one of the independent variables, Teacher-pupil ratio, is using a different measurement. According to Ministry of Education, the measurement of the Teacher-pupil ratio is “the number of the teacher in that academic year divided by the number of the student in that academic year. However, the measurement of the rest of the variables is obtained through using government data.

Control variable

The researcher chooses “rural-urban” as the control variable. According to Construction and Planning Agency, Ministry of the Interior announced, the measurement of “rural-urban” is “distributed by population:

1. Urbanization area: higher than 20,000 or 25,000 people
2. Rural areas: the population is 3,000 people, or increase by more than 1/3³⁰

Case study

In order to figure out the factors that causes rural-urban gap, the researcher uses a case study to further investigate the solutions to solve the problem of rural-urban gap. Moreover, the researcher uses different factors of positions in school to explore more solutions to solve rural-urban gap.

³⁰ 邱雅雯, "台灣地區都市化程度與垃圾量關係之研究 a Study on the Relationship between Urbanization and Garbage Clearance in Taiwan".

Independent-Sample t test

In order to find out the differences between the six factors and rural-urban gap, the researcher uses Independent-Sample t test to test whether there are differences between the variables. Therefore, the researcher will use this SPSS method to validate the six hypotheses in this research, and explain the details from each result.

Case study

For the case study, the researcher divides it into two parts. First, the researcher illustrates how to figure out the factors that are displayed in rural-urban gap, and the other is explaining about the solutions that can solve the factors through different school levels.

Factors of Rural-Urban Gap

This part will use some cases from the interview, government's databank, and every junior high school's website to investigate the factors that are displayed in rural-urban gap, which includes educational expenditure, teacher resources, the amounts of books collection, hardware equipment resources, student learning attitude, teaching styles of parents, cultural stimulation, and family income.

Educational Expenditure

By analyzing each junior high school's website in Keelung, Taipei, New Taipei, Hsinchu, Miaoli, Taichung, Changhua, Chiayi, Kaohsiung, Hualien, Taitung, and Penghu city, the researcher found out that in Taiwan, each city's government's department of budget, accounting, and statistics will give each city's junior high school some educational expenditure. Moreover, through the data from every junior high school's accounting office, the researcher figures out that the amount of educational expenditure in urban and rural areas are different (Table 4, and Table 5). From the two tables below, we know that junior high schools in every city's rural and urban areas, have different educational expenditures.

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	112,777	170,124,000	144,882,000	209,333,000	109,706
Rural area	27,579	257,132	19,958,000	39,461,000	56,982
Differences in educational expenditure	85,198	169,866,868	124,924,000	169,872,000	52,724

Table 4. The statistics of the differences in education expenditure

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中's educational expenditure in 107 academic year)

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	123,602,000	110,539,000	3,600,000	10,100,000	89,149,000
Rural area	74,098,000	17,546,000	2,025,000	3,047,000	38,625,000
Differences in educational expenditure	49,504,000	92,993,000	1,575,000	7,053,000	50,524,000

Table 5. The statistics of the differences in education expenditure

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's educational expenditure in 107 academic year)

Teacher resources

According to the experiences of two international volunteers, who have volunteered in Taiwan's rural and urban areas, and the data from the Department of Statistics in the Ministry of Education, we can figure out the reasons how the teacher resources influence "rural-urban gap".

- 1) The interviewee points out that "the number of the students in rural areas' junior high school is about 40, and the number of the students in urban areas' junior high school is about 160". Furthermore, the interviewee also discovers some problems after he finished volunteer work. As such, the problem is that in rural areas, the school is very small, and the distance is

far away from public transportation, causing inconvenience to teachers and insufficient teacher resources. (International volunteer A)

- 2) The interviewee points out that in rural areas, the students that are good at sports, have more relaxed lifestyles, and the students have less pressure and more freedom to do activities. Compared to urban areas, the interviewee found that the students' English ability is better than rural areas' students. Furthermore, after the interviewee finished volunteering, he finds a problem where different levels of students will gather together. This is a problem, because this will cause a phenomenon, and the student with good degree will become better, instead the student with worse degree will become worse. (International volunteer B)

From these two international volunteer's experiences, we know that the problem of insufficient teacher resources and the distribution of different levels of students gathering together is very serious in both rural areas and urban areas. Additionally, according to the data from the Department of Statistics in the Ministry of Education, we can also find out the difference of teacher resources in both rural and urban areas (Table 6 and Table 7.). From two tables below, the differences in teacher resources at junior high schools in the city's rural and urban areas are shown.

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	79	136	124	169	89
Rural area	19	16	12	132	43
Differences in teacher resources	60	120	112	37	46

Table 6. The statistics of the differences in teacher resources

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中)

中's teacher resources in 107 academic year)³¹

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	77	63	95	94	48
Rural area	55	13	39	26	23
Differences in teacher resources	22	50	56	68	25

Table 7. The statistics of the differences in teacher resources

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's amount of teacher resources in 107 academic year)³²

The amount of books collection

Conforming to the two international volunteer's experiences and the data from National Reading Promotion and Book Management System Network (全國閱讀推動與圖書管理系統網), we can explore the reason how the amount of books collection influences "rural-urban gap".

- 1) The interviewee figures out in rural areas, the students are more active in learning, and have more eagerness, and willingness to gain new knowledge. Moreover, because of the poor family background, they are more appreciative of what they have and do not take it for granted. Although the schools have classrooms, and textbooks, the quality is not good. In comparison to urban areas, their schools have more modern systems of teaching, such as teaching materials, and educational resources. Also, they have a more comfortable environment to learn in. (International volunteer C)
- 2) The interviewee states that the schools in rural and remote areas have

³¹ 統計處, "國民中學校別資料," (統計處, 2018-2019).

³² Ibid.

insufficient books and most of the students come from poor families or are farmers. On the other hand, the schools in urban areas have sufficient technology, teacher resources, and books. (International volunteer D)

From these two international volunteer's experiences, we can find out that in rural and remote areas, their amount of books collection is insufficient, and the quality of the classrooms and textbooks are poor as well. Furthermore, also from the National Reading Promotion and Book Management System Network (全國閱讀推動與圖書管理系統網), we also can observe the differences in the amount of collection books between rural and urban areas (Table 8 and Table 9). From the two tables below, we see that junior high schools in each city's rural and urban areas, all have different amounts of books collection.

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	22,028	19,644	15,664	39,696	19,291
Rural area	11,664	9,435	8,758	200	17,983
Differences in the amount of books collection	10,364	10,209	6,906	39,496	1,308

Table 8. The statistics of the differences in the amount of books collection

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中's amount of books collection in 107 academic year)

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	18,376	16,812	11,135	20,152	12,515
Rural area	8,154	5,331	10,169	12,966	11,986
Differences in the amount of books collection	10,222	11,481	966	7,186	529

Table 9. The statistics of the differences in the amount of books collection

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中)

中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's amount of books collection in 107 academic year)

Hardware equipment resources

As reported by one international volunteer and English teacher's experiences, we can figure out the reason as to why the hardware equipment resources influences "rural-urban gap".

International volunteer:

- 1) After finishing volunteering in Taiwan, the interviewee finds out that although the school has computers or technological devices, the teacher does not use it and instead they will use traditional ways, such as writing on the blackboard, or using handouts. Compared to urban areas, there are a lot of technological devices, and the teacher will merge the technological devices into their teaching to let the students learn efficiently in their subjects.

(International volunteer E)

English teacher:

- 1) The interviewee points out that in rural areas, since the student do not have a computer or Internet in his or her home, the learning resources is not enriched, and students' starting points are inconsistent. This kind of situation, the teacher points out, is a phenomenon, "the rich become richer, and the poor become poorer". Compared to urban areas, most of the family all have Internet and iPads. (Subject teacher A)

From the two interviewee's experiences, we observe that in rural areas or remote areas, even if the school has a lot of hardware equipment resources, the teacher prefers to use traditional ways to teach. Also, due to the lack of computers and Internet in the students' home, every students' starting point is different. Compared to

urban areas, their schools have a lot of technological devices, and most of the families have Internet and computers. From this comparison, we know that there are exists a differences of hardware equipment resources between rural and urban areas.

Student learning attitude

According to three teachers' experiences, we can explore the reason why "student learning attitude" will cause the "rural-urban gap".

School director of academic affairs:

- 1) The interviewee points out that the student in rural areas have less pressure from the schoolwork, some of them will go to participate in after-school program, but the schoolwork will mainly be focused on school. However, because the student in rural areas do not care about their grade, their learning attitude is less likely to take the initiative to study, and will only engage in their studies if asked to by the teacher.

In comparison to urban areas, the students' face more pressure for schoolwork than rural areas, and most of them will go to cram school. Therefore, their learning attitude is good because most students want to achieve a high grade. Due to pressure from their parents, the students will take initiative to study. (Primary school director A)

Subject teacher:

- 1) The interviewee points out that the student in rural areas is resourceful in life and their life style is simple. Their lifestyle causes them to be unenthusiastic about school or uninterested in achieving good grades. If the teacher gives them information, and they will just receive it. Comparing to the students in urban areas, they are more utilitarian because they always think of how their actions is going to benefit them. (Subject Teacher B)

- 2) The interviewee points out that the parents in rural areas will not force his or her children to study and have less demand on their children. Also, the most important thing is their family background, for example, if their parents get divorced, causing his or her family structure is not stable, which will let them lose the motivation on learning.

However, in urban areas, the teacher will give a lot of resources, which results in most of the students' absorption of new information become higher. Also, the students can get various experiences because of interaction with different students of diverse backgrounds. (Subject Teacher C)

From these three interviewees' experiences, we can understand that the students' learning attitude in rural areas are less likely to take the initiative to study, but will engage in studies when the teacher asks the students to do so. Comparing to the students in urban areas, we can find out that their learning attitude are good because most of the students care about their grade. And, they will proactively study because of pressure from their parents. Therefore, through these three interviewees' experiences, we can figure out that students' learning attitude have differences in both rural and urban areas.

Teaching styles of parents

Conforming to three teachers' experiences, we also can find out that the reason how "teaching styles of parents" will influence the "rural-urban gap"

School director of academic affairs:

- 1) The interviewee points out that the students' family background in rural areas is farming or working in a factory. The parents' engagement with child's schoolwork is low, which leads to the student to be less active in their studies. Most of the student in rural areas lack support, due to their parents

are busy with work.

In urban areas, most of the family background are entrepreneurs or business related. Because of the expectation from the parents, the children's pressure to do schoolwork and the demand to achieve a high grade. Although there is a higher demand, the pressure makes the children in urban areas have good education and obtain plenty of knowledge and educational resources.

(Primary school director A)

School teacher:

- 1) The interviewee points out that in rural areas most of the students' family background is mainly grandparenting. There is also a phenomenon, those parents who pay attention to education will let the student learn more, but most of them will let their children to go to work directly after graduating from elementary school or junior high school.

However, comparing to the students in urban areas, the gap of the students' family background is very huge, and most of them will go for further studies. Most of the students' pressure from schoolwork or parents' expectation are very high because they hope their children can obtain a good academic achievement. But the interviewee points out that if the pressure towards the students become too large, it may cause the student to have behavioral deviation. (Subject teacher B)

- 2) The interviewee points out that most of the students' family background in rural areas is farming or fishing. Moreover, most of the parents' expectation are for their children to do the same work as them. Also, the parents do not have much time to accompany with their child because of their work. Under this situation, the interviewee points out that the children's willingness to

learn is low because parents will not discuss with the children about their schoolwork when they return home.

In contrast to urban areas, most of the students' parents will spend some time to accompany with their children and teach them when they encounter problems in their schoolwork. However, the interviewee also points out that most of the student will suffer from expectation of their parents. (Subject teacher C)

From these three interviewees' experiences, we can figure out that in rural areas, parents will not force their children to study and their expectation for their children is minimal. Furthermore, rural parents cannot personally understand their children's learning situation, nor do they have much time to accompany with them to study, because they have a part-time job or work outside. However, comparing to urban areas, the parents will send their kids to cram school to progress their learning, also they will take some time to study with their children. Therefore, through interviewees' experiences, we can conclude there are differences in "Teaching styles of parents" between rural and rural areas.

Culture stimulation

According to one teacher's experiences, we can observe the reason why "culture stimulation" influences the "rural-urban gap".

School teacher:

- 1) The interviewee points out that in rural areas, about 70% of the student's mother is "Taiwanese new immigrants". In general, the students' financial situation is not very good, and the source of income is usually from Taiwanese new immigrants instead of the father. In addition, the parents have a language barrier, and cannot help their kids on their schoolwork.

Their children prefer to learn the language from their mother instead of “English” because some time their mother will take them to join her reunion. This means that due to the student's mother comes from another country and sometimes their mother will take her children to participate in her reunion with friends. Therefore, the children of those immigrant mother will prefer to learn the language, like Malay or Vietnamese. However, in week-end, their mother will do some part-time job or work outside, and she does not have time to take children to participate in extracurricular events. Comparing to urban areas, in the week-end, most of the parents will have time to take them out to play or participated in some school activities or English camp. The interviewee also points out that the children will obtain a lot of resources, no matter in school or outside in contrast to rural areas’ students. (Subject teacher C)

From this interviewee’s experience, we can figure out that in rural areas, the people’s life style is not very prosperous. Furthermore, students will spend more time in the park or grassland, therefore, they have fewer opportunities to meet people of different ethnicities, and parents rarely take their children out to play. Compared to urban areas, parents will have more time to accompany their children and take them out to play. In addition, the school provides more resources, such as outdoor activities or English camp to explore culture. For this reason, we understand that “culture stimulation” will affect “rural-urban gap”, and gradually influence the students’ “academic achievement”.

Family Income

Conforming to the data from each city government’s department of Budget, Accounting, and Statistics, we can figure out that there are some differences of

“family income” in both rural and urban areas, especially in New Taipei, Taichung, and Kaohsiung (Table 10). From the table below, we can figure out that there are differences of family income in New Taipei, Taichung, and Kaohsiung.

	New Taipei		Taichung		Kaohsiung	
	The number of people	per capita income	The number of people	per capita income	The number of people	per capita income
Urban	164,997	535,305	239,058	523,422	176,865	459,124
Rural	178,110	566,195	156,617	472,240	34,112	440,808

Table 10. The statistics of the family income

Sources: Edited by the researcher (Report on the survey of family income and expenditure in 107 academic year)

Strategies for the factors in rural-urban gap

To understand the factors that influences rural-urban gap, the researcher holds interviews from different school levels to find the solutions. Moreover, through different solutions from the school level, we can provide for the school in rural areas, and try to ease the rural-urban gap. The researcher will analyze the seven factors and divide into primary school, junior high school, and senior high school.

■ **Strategies for solving “rural-urban gap” (from A~D):**

The factors of educational expenditure, Teacher-pupil ratio, the amount of books collection, and hardware equipment resources can be solved by the actions of the principal, and school director of academic affairs. Therefore, the researcher will explain the details for each factor below.

A. Educational expenditure:

From elementary school to junior high school

✚ Strategies for principal:

- 1. Through writing “competitive project” or applied for “leading school project” to strive for increasing “educational expenditure”**

At present, most of the school's funds are applied to the "Ministry of Education" or the "Education Bureau" by "writing project", such as "competitive plan". However, this part depends on the current trend of the "educational policy", such as "108 syllabus" in the "national educational policy". The principal of the primary school applies for "leading school project (前導計畫)", which can help them apply for some "educational expenditure". (Primary school principal A)

The competitive project allows the school to apply for funds through ways of competition, such as a reading competition; leading school project means that the faculty and the parents will participate the workshop held by the Ministry of Education, and share experiences with each other. Therefore, through these two projects, the school can strive for more educational expenditure and increase more resources.

2. Through the project of "remote school" from the "Ministry of Education" to increase school's educational expenditure

Because the principal of interviewee is service in "remote areas", and currently the Ministry of Education has some special project for the school in rural areas to apply to strive for some funds. The principal points out that this educational expenditure's possibility given by Ministry of Education is very high. (Junior high school principal A)

Remote school program is special because if the school's geographical location belongs to remote or rural areas, they can apply for the program to gain additional funds. Therefore, this program can allow schools in rural or remote areas to get benefits.

3. Through school's "academic performance of students" to strive for the help from "private foundations"

Through the “academic performance of students”, the principal states that as long as the school has achieved the result, they have the better chance to apply for some subsidies from the “private foundations”, especially for the student whose family status is not very well, usually the private foundations will be willing to help. (Junior high school principal A)

Therefore, from the words of interviewee, we can know that this way can solve the insufficiency of “educational expenditure”. Because if the students has good academic achievements in school, then the school can get funds from the private institutions.

Strategies for school director of academic affairs:

1. Through the “Education bureau” to strive for related funds, such as

Multifunction Classroom

In terms of striving for the “educational expenditure”, the methods to do so in urban areas are different from rural areas. The interviewee not only seeks some “funds of hardware equipment” from the education bureau, but also writes some “competitive project” to increase the “reputation” and “resources” of school. Although “Primary and Junior High School Act (國民教育法)” specifies that each school has a fixed allocation of “educational expenditure”, the ways of obtaining funds depends on the effort of the principal A nd school director. (Primary school’s school director A)

From the words of the interviewee, we can know that this strategy can solve the insufficiency of “educational expenditure”. Because through “Education bureau” they can strive for some of “educational expenditure” to help the school to build a good learning environment.

2. Through writing the competitive project, such as small school flipped education program, or “12-years leading school project” from the Ministry of

Education to strive for some fund injection

There are two sources of “educational expenditure”, one is the “Education bureau”, another is writing “competitive project”. First, “education bureau”, for example, the interviewee will participate in the project of “small school flipped education program (小校的教育翻轉計畫)”, if the school get award, there will be a “two hundred thousands of funds” injection. Another example is through application for the “12-years leading school project” to strive for more educational expenditure’s injection. Second, “competitive project”, for example, the “Ministry of Education” or “Education bureau” will provide some competition for the school to strive for “educational expenditure”, for instance the school who served by the interviewee has applied for the project of the development features, from 101 academic year to 107 academic year, the school has gotten the awards from the Ministry of Education.

(Junior high school’s school director A)

“Small school flipped education program” is a project from the education bureau of Kaohsiung government. The purpose of this program is to encourage the school in rural areas to develop “featured curriculum”, and implement the connection with the local cultural industry. Moreover, “12-years leading school project” is a project that provided by the Ministry of Education, and its main focus is on the curriculum design. Therefore, through these two projects not only can develop new curriculum, but also obtain more injections of the “educational expenditure”.

3. Through “private enterprises”, “companies” and “technology industry” to facilitate with the “educational expenditure”

Another source is self-preparing, for instance, the school can ask for help from private enterprises, technology industry or companies, then these institutions will directly provide the expenditure to the school. However, because the school of the

interviewee is in rural area, some of the enterprises, such as TPC, Fubon bank, and All ring, will facilitate the lunch fee of the school. (Junior high school's school director A)

From the interviewee's experience, we can figure out that this strategy can also solve the problem of insufficient educational expenditure. A school can solve the problem by finding some private institutions, or local enterprises, such as TPC, All Ring or Tzu Chi, to gain more funds to help the school, especially in rural or remote areas.

B. Teacher resources:

From elementary school to junior high school

✚ Strategies for principal:

1. Through “control the positions of teacher” to reserve for “substitute teachers” and “supply teachers”

For the “teacher resources”, the urban area's school that the interviewee works in is relatively stable, but the turnover rate of teacher resources in “rural area” will be relatively higher. Moreover, if we take “urban” area as an example, the school which served by the interviewee has adopt “control the positions of teacher”, which can reserve substitute teachers, or supply teachers. In order to keep these “substitute teachers” and “supply teachers”, the interviewee's school utilized the “service enthusiasm” and “frequency of participating in school activity” as an indicator for measurement. (Primary school principal A)

“Control the positions of teacher” is one of the strategies that the interviewee's school adopted, and it means to reserve some quota for the “supply teachers” or “substituted teachers” in order to prevent the phenomenon of vagrant teacher to appear. This strategy not only reserves the quota of the “supply teachers” or “substituted teachers”, but also solves the problem of teacher resources in urban areas.

2. By “distributing teacher equally, and having teacher in all fields” to avoid the problem of “complete non-specialized teaching”

Due to the recent approval of the “Act for Education Development of Schools in Remote Areas”, the calculation of the school’s “teacher resources” are mainly based on the “students’ learning hour”. As a result of the approval of the policy, the teacher-pupil ratio is higher than before, however, the school which served by the interviewee thinks that the problem is not “Teacher-pupil ratio”, but instead it is the problem of teacher’s expertise and their main subject.

The subject boundary is obvious in junior high school, which leads to the question, if every subject needs a teacher, then the school needs at least 20 teachers to satisfy the assumption. The interviewee’s school points out that there is a conflict if every subject needs a teacher, especially for schools in rural or remote areas. The interviewee suggests that “distribute teachers equally, and let teachers in all field.” The purpose of this is to prevent “completely non-specialized teaching”, such as the teacher in the field of “social studies”. (Junior high school principal A)

Through the interview, we can know that this method can improve the insufficient teacher resources in rural or remote areas. The reason is because most of the teacher resources in rural or remote areas are mainly “supply teachers” or “substituted teachers”, and it is hard for rural schools to find additional teacher resources to fulfil all subjects.

3. Through using the “curriculum development”, and “cross subjects learning” to improve teacher’s professionalism.

Through the cooperation with “NTNU”, and the project of “Ministry of Education”, the interviewee found that “curriculum development”, can allow professional growth and cross subject learning with each other. (Junior high school

principal A)

“Curriculum development” means that the teachers will conform to the needs of student’s learning and where, the teachers will design new curriculum for the student to do diverse learning; moreover, “cross subjects learning” means that teacher can exchange opinions with each other and facilitate growth of one another through alternative curriculum. These two methods can improve the teaching quality of the teachers, especially in rural or remote areas and solve the problem of teacher resources.

Strategies for school director of academic affairs:

1. Through teacher’s self-enhancement, such as participating in the workshop held by “Education bureau”

In urban area schools, parents are demanding towards teachers, and teachers have high requirement for themselves. Therefore, the “teacher resources” of the interviewee’s school will all do self-enhancement. However, in addition to the workshop required by the Education Bureau, the interviewee points out that teacher’s self-enhancement is an essential part along with the concern from the parent, can push the teacher to move forward. (Primary school’s school director A)

“Teacher self-enhancement” means that through participating in the workshop held by the Education bureau or the school, can help them broaden their knowledge and enhance their teaching ability or styles of teaching. Therefore, this method can solve the problem of the teacher resources because through self-learning, the teachers can increase their knowledge and improve their styles of teaching.

2. Through “legacy teachers (薪傳教師)” to enhance new teacher’s development of professional knowledge or skills and adapt the school’s culture and environment

There are some ways to make teacher resources become better, such as the interviewee's school has adopted "legacy teachers". The rural area's junior high school which served by the interviewee will invite senior or supply teacher to lead the new teacher and help them to develop their professional knowledge and skills, also let them to earlier adapt the school's environment and culture. (Junior high school's school director A)

From the interviewee, we can find out that this method not only is able to ease the inadaptation of the new teachers, but also improve the problem of teacher resources. Because through "legacy teachers", the school can help the new teacher to adapt the new culture of the school and the new environment.

3. Through improvement of the teacher's teaching quality to better the "teacher resources" in rural areas

The interviewee believes that the students in rural areas schools has to receive a lot of teacher resources because of the low "teacher-pupil ratio", but teacher's teaching quality depends on the teachers themselves, which may cause the problem of teacher quality and teacher's attitude toward "students". The interviewee points out that although the proportion of the "teacher-pupil ratio" in rural or remote area is small, but whether the "students" can get higher "teaching quality" still depends on teacher themselves. (Junior high school's school director A)

According to the words from the interviewee, we can know that this strategy can solve the problem of teacher resources. By improving the teaching quality and teacher's mindset in rural and remote areas, the teacher resources will become better in rural and remote areas.

C. The amount of books collection:

From elementary school to junior high school

 **Strategies for principal:**

1. Through “reading promotion plan”, “reading essay”, “reading drama”, “book lending reward system”, and “Community Reading station” to increase student’s reading interest and improve their “reading ability”

In fact, every school has a “reading promotion plan”, however, interviewee’s school has held some activities and institutions, such as “reading essay (閱讀徵文)”, “reading drama”, and “book lending reward system (圖書借閱的獎勵制度)”. This year the interviewee’s school has added a new “book promotion teacher”, whose job is to plan various “reading series activities” for students to participate in, so the students will enjoy going to the library. Another way is participating in “community reading station”, which can stimulate the reading interest of the students and create a space for the parent and children to read together. (Primary school principal A)

“Reading promotion plan” is a plan to help the student, whose family background involves grandparenting or single parent family, to increase their ability of critical thinking and judgement. Moreover, “reading essay”, “reading drama”, and “book lending reward system” are activities to help the student learn actively, and read more. Therefore, these methods can solve the problem of insufficient reading because these activities can help the student to stimulate their learning and increase their number of lending books.

2. Through “class book rotation” to promote “study group” in class

The interviewee’s school created a system of “class book rotation”. First, the school will buy some “shared books”, and every class in each grade will take turns. Teacher can use these shared books to promote a “study group” of a class. (Primary school principal A)

From the words of the interviewee, we can figure out that this method can nurture

the reading habits of the students and solve the problem of the insufficient books.

Because through the activity of “study group”, and class book rotation, it can help the student learn to love reading and improve the problem of insufficient books.

3. Through funds injection from “Ministry of Education” or “education bureau” to purchase new books

The junior high school in rural areas, which served by the interviewee has point out that “the amount of books collection” has increased year by year. The “Ministry of Education” and “Education bureau” usually give schools at least ten hundred thousand a year to buy “new books”. Therefore, the interviewee states that “the amount of books collection” is constantly increasing. (Junior high school principal A)

From the words of the interviewee, we can understand that this strategy can help to solve the insufficient of the number of books collection. The Ministry of Education and Education bureau will give fixed funds for the school, and the school can use the funds to purchase new books and increase their amounts of books collection.

4. Through the “library from the city government” provide “reading book van” or apply “bookmobile” from “Fo Guang Shan”

Through the strategy of “book van”, and signing a contract with the library. The entire city government can borrow at least five hundred books one time. After borrowing the books, the library will send “bookmobile” directly to the school. The interviewee also applies the “bookmobile” from “Fo Guang Shan” to increase the reading ability of the students. (Junior high school principal A)

Through the words of the interviewee, we can know that this method can increase the number of the books collection in school, and help the students to have new books to read, especially in rural or remote areas. Through the cooperation with the local libraries from the city government or Fo Guang Shan, the school can increase the

number of books collection through this way.

Strategies for school director of academic affairs:

1. Through funds from “Ministry of Education” or “Education bureau”

The interviewee’s school points out that in the part of “reading”, in fact, there are many resources introduce to the school. Every year, the “Ministry of Education” or “Education bureau” allocates a certain amount of funds to the school, then the school can utilize the funds to purchase “fix amounts of books”. However, due to recent years, increase in funds of the book expenditure, which causes the amount of books collection to increase in the interviewee’s school. (Primary school’s school director A)

Through the interview, we can figure out that the Ministry of Education or Education bureau will give some funds to school, and the school can use the funds to purchase the books. Therefore, the school can solve the problem of insufficient books collection.

2. Using funds which provided by the parents to purchase related books

The interviewee thinks that “parental recognition” is another reason of increasing the amount of books collection. “Parental recognition” is derived from the students who like to study and reading, and the parents investigate the learning effect from their children, then these parents will donate some funds for the school to purchase the books that children loved. (Primary school’s school director A)

Through the saying of the interviewee, we can know that this is also one of the ways to solve the problem of the insufficient books collection. Because of the recognition from the parent, the school can get some funds from the parents or donation of the books from the parents.

3. Through “author visit” or “theme exhibition” of related festival to increase the student’s reading literacy and reading ability

The “reading teacher” of the interviewee’s school will attempt to increase the reading literacy or ability of the students through the activity of “author visit” or the sharing of “the theme introduction of books.” The interviewee’s school is mainly based on “reading”, and the activity of “author visit” is one of the main activities in the school. Previously, the school has invited the author, Cheng, Tsung-Hsien, to share his creative idea and the children would ask the author about the final plot of the story. From this we observe that the students are interested in the author’s writing. For a “book exhibition”, the school will host a theme exhibition festival, such as Teacher’s day or Christmas. (Primary school’s school director A)

“Author visit” is an activity that is usually hosted in primary school. Through face-to-face meeting with the writer, the students can understand the meaning of reading and the creating idea of the author. Moreover, “theme exhibition” means that the school will conform to the festival theme, such as Christmas, teacher’s day, to display some theme related books for the student to read. Therefore, through these two methods, we can solve the problem of insufficient reading because the student can use these methods to stimulate his or her reading interest.

D. Hardware equipment resources:

From elementary school to junior high school

✚ Strategies for principal:

- 1. Through writing “school needs plan (學校需求計畫書)”, or drawing up the “long-range plan” to plan for the school’s renewable software and hardware in the next four years**

The interviewee’s school will draw up the “long-range plan”, where the school will consider how to update the software and hardware system in the next four years, which is related to “school’s history” or “equipment maintenance”. As an example,

when the interviewee firstly serviced in her school, she found out that the “basketball court” was not usable and was a dangerous environment as it made the children easier to get injuries. In the first year, the interviewee wrote a plan, to the Ministry of Education in order to apply for and “improve and renovate” the floor of the basketball court in the interviewee’s school. (Primary school principal A)

From the words of the interviewee, we can observe that the school can form a plan to solve the problem of insufficient hardware equipment resources.

2. Through the school’s “parent’s association” and “Local elected representative” to ask the “central government” for help, also reflect about the renovation of school’s “facilities or hardware equipment”

In addition to writing the “school needs plan”, the school’s “parent’s association” cares a lot about the situation of the construction of the equipment maintenance. The interviewee reaches out to local elected representative to ask the “central government” for help, and if the “central government” has the funds for this construction, then they will allocate the funds to school. (Primary school principal A)

From the words of the interviewee, we can know that “parent’s association” and “Local elected representative” can help the school to strive for more help from the central government and get some funds to renovate their school’s “facilities or hardware equipment”.

3. Through the project from the “Ministry of Education”, or the capital account budget from “education bureau”

The interviewee points out that for expenditure in “hardware equipment”, about 90% mainly comes from the “Ministry of Education” and “Education bureau”. However, the interviewee also points out that the “Ministry of Education” has many projects, and as long as the school’s hardware equipment has defect, the Ministry of

Education will give replacements. On the other hand, every year, the education bureau will give a certain “capital account budget” for the school to renovate the essential facilities, also the school can apply for temporary work as needed.

Moreover, in the interviewee’s first year at his school, the interviewee has done the renovation of the “Physics and Chemistry Laboratory”, which cost a total of nearly one point five million. Also, in the second year, the interviewee has done the renovation on “Home Economics Classroom”, which cost a total about seven hundred thousand. This year, the school will update their “roll-up door”, “security room”, and “school entrance”. (Junior high school principal A)

From the words of the interviewee, we can know that the project from the Ministry of Education and capital account budget from “education bureau” can help the school to strive for some funds to renovate the old facilities and increase the resources of hardware equipment of the school.

Strategies for school director of academic affairs:

1. Through writing the “competitive program” to strive for the funds from the “Ministry of Education”

The interviewee will also write some “competitive program” to strive for some funds from the “Ministry of Education”. (Primary school’s school director A)

“Competitive program” allows the school to strive for funds through ways of competition, such as digital innovation teaching school (數位創新教學典範學校).

Through this program can strive for more funds to improve the problem of insufficient hardware equipment resources.

2. Through the funds from “Education bureau” or “self-preparing”

The “hardware equipment” of “rural schools”, including “engineering” requires a lot of funding. The interviewee thinks that there are two sources of “funds”, one is

school's budgeting, the other is self-preparing. First of all, school's budgeting, includes equipment and engineering, which depends on the willingness of "education bureau" to help the school. Finally, self-preparing, includes "competitive project". If it is necessary to correspond with "specific item", the interviewee suggests to ask the elected representative for help, such as Members of the Legislative Yuan, or City council member. The other way is to ask private enterprise for help, such as the enterprise in Southern Taiwan Science Park. (Junior high school's school director A)

From the words of the interviewee, we can find out that the methods of "self-preparing" and using the funds from the Education bureau can increase more funds. However, these methods also can solve the problem of insufficient of the hardware equipment resources because the school can use the funds to purchase more facilities and hardware equipment.

■ Strategies for solving "rural-urban gap" (from E~G):

The strategy will cover solution plans for the principal, school director of academic affairs, homeroom teacher, subject teacher, parents, and students. Moreover, the factors of student learning attitude, teaching styles of parents, and culture stimulation will be displayed below and the researcher will also explain the details.

E. Student learning attitude

From elementary school to junior high school

✚ Strategies for principal:

1. Group cooperative learning (分組合作式學習)

The interviewee points out that in this part the school need to give teacher a new concept "in the class, you may not be able to use unified teaching materials, teaching process, or teaching methods to influence each student". Instead, conforming to the

characteristics of every student, the teacher needs to distribute the time of teaching into three parts, one is for big group, one is for small group, and another is one to one learning model. Through these methods, the interviewee points out that diverse learning or teaching models can help stimulate student's "learning motivation".

(Primary school principal A)

From the words of the interviewee, we can know that the way of "group cooperative learning" can improve the problem of student's learning attitude. The reason is because the student can exchange their opinions with each other and learn how to cooperate with other people and gradually become more active in their learning.

2. Through implementation of different kinds of resources, for students, such as "reading program", to increase their "learning positivity"

Due to the lack of resources in "rural areas", and the interviewee's school will utilize various resources to strive for increase in students' "learning positivity." The interviewee points out that in rural areas, the implementation of resources on students can help them increase their "learning positivity", and gradually change their learning attitude, such as "reading program". (Primary school principal B)

From the saying of the interviewee, we can find that implementing the activity on the students can improve the problem of the student's learning attitude. The reason is because through the activity, such as reading program, it can help the student to begin actively reading and change the way of their learning.

3. Through the ways of "self-study at night (晚自習)", or giving some rewards

The interviewee, who serviced in the rural areas, points out that the big problem of "student's learning attitude" is the whole "culture atmosphere", because parents thinks that their children do not know how to study, and that their children do not

need to study hard. The interviewee points out a strategy of “start from school, change by parents”, which means that since the family education cannot provide too many learning aids, the school adopt for the “self-learning at night” in order to let the students stay at school to study. When students started studying at night, and after one to two years, their test score is better than the original results. From this phenomenon, we can figure out that parents are gradually changing their mindset of “their children cannot study”. Although in the beginning, the “self-learning at night” did not have a lot of student participating in, now the parents were willing to let their children to join because this can benefit their children.

In terms of grades, the interviewee points out that in these three year, the students’ performance in “comprehensive assessment program for junior high school students” is very well. We can see decrease in “grade C”, and increase in “grade A”. From 107 academic year, the interviewee’s school got “two A”; from 108 academic year, the school got “six A”; in 109 academic year, the school got “eleven A”. In addition to “decrease C”, in 109 academic year, the rate of B in each subject is more than 70%, also there are two students who got “3A2B++”, and they can go to Kaohsiung senior high school, and Kaohsiung girls’ senior high school.

Moreover, in regards to rewards, the school will provide a lot of rewards for the students, such as scholarship, or other rewards, to motivate the students willing to study, but the school targets progressive students, like midterm examination or mock test for “comprehensive assessment program for junior high school students”. (Junior high school principal A)

Through the methods that the interviewee points out, we can know that this method can solve the problem of student’s learning attitude. The reason is because the student effectively utilizes the time to study at night in school, especially in rural and

remote areas. Through a slow, gradual process, the student will nurture their habits of self-study at night in school.

 **Strategies for school director of academic affairs:**

1. Invite college students to enter the school for counseling and through the use of “electronic mobile learning devices” to stimulate students to learn

The school and teacher need to understand the reason why students are not willing to learn positivity. One reason is because students encounter some problem or because they do not sleep or eat well. Also, it is not just changing or adjusting teacher’s teaching method to change student’s positivity, the school can target the children who are “lagging behind”, and adopt for some methods. For example, the school will invite the college students from Kaohsiung Medical University to do one to one or one to two learning. On the other hand, due to the school which served by the interviewee is a “mobile learning” school, teachers can use “tablets” to encourage or stimulate students to learn Chinese, or Math. The interviewee points out that the most important step is to make the students have confident in learning, and confidence will create positivity in learning attitude. (Primary school director B)

Through the words from the interviewee, we can find out that these methods can help to improve the student’s learning attitude. The reason is because through the assistant from the college students and tablet learning, the student can increase learning interest and improve their learning style.

2. Through the activity of “field characteristics” to let the student not only doing the “Paper-and-Pencil Test”, but also through other “activity” to increase student’s learning interest

The interviewee thinks that every fields’ “characteristic activity” is very important, for example, “Math” has activity of Math week; “Science” has Science

Garden day; “Social Study” will implement questions with a prize; and “Chinese” has Chinese language competition, and lantern riddles. Through these activities, the school will implement “co-preparing” to plan the characteristic activity, and find some speakers to enter the school and share their knowledge. (Junior high school director A)

“Field characteristic activity” means that an activity should be designed related to the different subjects, such as Chinese, Math, English, Social studies, and Science. For example, for Chinese, the teacher can hold Chinese Pronunciation & Word Form Contest (字音字形比賽); for social studies, the teacher can hold prize quiz (有獎徵答); for Math and English, the school will hold a week for English or Math. This will not only can help the student to broaden their knowledge, but also improve the student’s learning attitude. The reason is because student can learn from the “field characteristic” activity to increase student’s learning interest.

3. Through related program, such as “creative teaching (活化教學)”, and “learning aid (學習扶助)” to help student; applying for related “funds” to strive for some related project to increase students’ learning positivity

In order to increase the learning positivity of the students, the interviewee will apply for some program to strive for some related finds, such as “professional learning community”, “creative teaching”, and “learning aid”. On the other hand, other office in the school will also plan some activity by applying for some funds to use towards, anti-bullying, and highlight project. (Junior high school director A)

“Creative teaching program” means that in order to strength teacher’s professions, the CIRN, Curriculum & Instruction Resources Network, encourage the teachers to use diverse teaching to increase student’s learning motivation and learning effectiveness. Moreover, “learning aid” is a project that strengthen student’s learning

motivation and narrow the learning gap. Through these two methods, it can improve student's learning styles and gradually change their learning attitude. Because through creative teaching, the student can learn diversely and increase their positivity on learning.

 **Strategies for homeroom teacher:**

1. Through “group discussion” to let students understand the importance of “group cooperation”, and nurture the capability of critical thinking

After the students finish the activity, the whole class will discuss in small group. The children will give some suggestions and act as leaders through group discussion. In a long period, these children will write down their responsibility. The purpose is to let them understand that everyone needs to contribute. After that they will get respect from their teammate. This event, which can let them brainstorm and critically think of the result they proposed. (Primary school homeroom teacher A)

From the words of the interviewee, we can understand that group discussion can help the student to change their learning attitude and the motivation of learning. The reason is because through discussion with each other, students can learn more.

2. Through the system of rewards or “praise” by classmate in the class

The interviewee will build a system of rewards. For example, although some student's grade is not well, as long as the student has progress than the interviewee will give them some rewards or some praise from their classmate. Also, the interviewee thinks that peer's influence or encouragement from each will increase their “learning positivity” and change their “learning attitude”. (Primary school homeroom teacher B)

From the interviewee, we can clearly know that this strategy can increase the learning motivation of student and gradually change their learning attitude. The

reason is that if the grade of that student is not good, and receiving praise from his or her classmate can increase their confidence and learning motivation.

3. Through the school curriculum or alternative curriculum of “108 syllabus”

The interviewee thinks that school curriculum or alternative curriculum in “108 syllabus” can push the students in “rural areas” to learn. For example, the alternative curriculum in “Social Study”, maybe to gather geographical location in the subject of geography, history, and civics. The interviewee hope that through changes in teaching, it can let the students have different perceptions of the subject. Most of the teacher are limited in their teaching, but the interviewee wants to use her geography to let the students to see different things, for instance, using different teaching clips to let the students to learn different things. (Junior high school homeroom teacher A)

“Alternative curriculum” means to improve the student’s learning interest and learning motivation. Moreover, this way can improve student’s learning motivation because student can learn through diverse curriculum provided by the teacher.

✚ Strategies for subject teacher:

1. Design some activities to let the student experience

The interviewee points out that she will design some learning activity for the students to participate and have positivity, such as activities including arts and crafts, making puppy, cooking (making sandwiches, rice budding and moon cake). (Primary school subject teacher D)

From words of the interviewee, we can know that this way can help the student to develop diverse interest and gradually influence their learning attitude. The reason is because through activity, the student can increase his or her learning interest.

2. Through “peer learning”, “group cooperation” to help the children, whose capability is not well; give children a “correct” mindset and value

For the part of “positivity”, the interviewee will encourage the students to find out the theme or ways of learning that they have interest. Moreover, the interviewee will ask for the learning attitude, if student is not doing hard in writing, the teacher will ask the student to practice more. On the other hand, the teacher will use the system of “enhancement”, for example, using the ways of “earn points” or “give some small rewards” to let the children can do more. Also, the interviewee will invite the students, who has good capability, to use “group” to teach the students whose capability is not well. Through this method, it can let the students increase their confident and get a sense of accomplishment, peer learning, and group cooperation. From this activity, the interviewee always tells the student that “learning is your responsibility, you are working hard by yourself” or “the importance of learning”. (Junior high school subject teacher A)

Through the words from the interviewee, we can find out that this strategy can improve student’s learning attitude. The reason is because the students with better ability can help the lower ability students to move forward.

Strategies for parents:

1. Strategy of “Behavior change technique”

The interviewee will adopt for the strategy of “Behavior change technique”, through the theory of “hanger,” using “hanger” to test the children whether they can achieve this capability. This strategy is to mainly nurture children’s active learning; if their learning is active, then their attitude is positivity, they do not need to rely on parents. (Primary school parent A)

“Behavior change technique” is to mainly use the “hanger” to inspect the children as to whether he or she can completely use “hanger” by himself or herself or not. Moreover, from this strategy, we can know that this is related to children’s

learning attitude, by using the hanger to inspect whether his or her learning attitude is active or not.

2. Time management

The interviewee thinks that “time management” is one of the problems that children face because the children cannot control their time on playing cellphone. However, when children are little, the interviewee will regulate their children finished the schoolwork first or arrange some courses for them to learn. This kind of regulation can nurture their habits, and gradually influence their learning attitude and learning positivity. (Junior high school parent A)

From the words of the interviewee, we can know that good time management will influence student’s learning attitude. The reason is because if the student do not have good time management, it will influence his or her learning positivity, and gradually influence his or her lifestyle.

Strategies for students:

1. Through the way of “focus” to let himself focus and increase his academic grade

The interviewee thinks that focus on one thing, such as “Social Study”, can help him increase his academic grades. (Primary school student A) (Junior high school student A)

Through the words from the interviewee, we can know that the method of “focusing” can improve his learning to become positive. The reason is because the determination of doing one thing can gradually change the learning attitude to become positive.

From junior high school to senior high school

Strategies for principal:

1. Create the “study” atmosphere

Because of the “self-study at night”, the interviewee’s school has doing this project for a period of time, especially for the 3rd grade of junior high school students. Although the 1st and 2nd grade students do not need to join, the interviewee points out that this project becomes more common and the students in 1st and 2nd grade will not feel strange. (Junior high school principal A)

From the words of the interviewee, the method of creating the “study” atmosphere can help the student change his or her learning attitude. The reason is because the student will be influenced by his or her peers. If his or her peers study hard, then the student’s learning attitude will become positive; instead, if his or her peers do not study hard, then the student’s learning attitude will be negative.

2. Through the way of “flipped education (翻轉教育)” to increase student’s learning positivity; through the alternative curriculum of “108 syllabus”

The interviewee will encourage the teacher to participate in workshop to learn about “flipped education” and then promote it to the students. When the teacher comes back, the interviewee will promote the project of “flipped education” or “interaction with students”. The interviewee also points out that the use of “alternative curriculum” of the “108 syllabus” to increase student’s positivity and gradually change their learning attitude. (Senior high school principal A)

“Flipped education” means that the teacher lets the student learn online allowing the teacher to have deeper discussions with the student on the courses. Moreover, “Alternative curriculum” means to improve the student’s learning interest and learning motivation. These two methods will influence student’s learning attitude. This is because using diverse curriculum will not only help the student have the willingness to learn, but also change his or her learning attitude to become positive.

Strategies for school director of academic affairs:

1. Through “multiple assessment (多元評量)”, or group learning courses (分組學習課程)

The interviewee points out that in senior high school, peers’ “sub-culture” influences student’s learning attitude and positivity. However, school has various methods of evaluation, and due to student’s group activity, the new education reform and syllabus are more diverse in classroom teaching. The school hopes that every student will be in a better condition, including the project of Remedial Teaching, to let them can actively learn and gradually change their learning attitude. (Senior high school’s school director A)

“Multiple assessment” is using diverse assessment to understand the situation of the student, teacher’s teaching styles, and student’s development of learning. Moreover, “group learning courses” is conforming to the new syllabus, and divide students into groups and let them to start discussions. These two methods, allows inspection of the learning status of the student and their learning attitude. The reason is because from the discussion of the group, we can understand the learning status of the student.

2. Through “skill-test counseling (技能檢定輔導)” or “homeroom teacher” to create a good “studying atmosphere”.

The interviewee points out that this is a problem of the “environment” because from the aspect of first-line education scene, the student’s learning attitude and positivity is not very well. Moreover, the interviewee thinks that students have more and more opportunity to learn, such as “winter counseling”, “summer counseling”, and “night counseling”. But, the school has added some “counseling section” for “skill-test”, and the interviewee points out that these “certificate” for “skill-test” will

help the students do the special achievement-based admission. On the other hand, the “studying atmosphere” created by the homeroom teacher will influence student’s learning attitude and positivity, and the interviewee thinks that use of punishment, rewards all can help the student move forward. (Senior vocational high school’s school director A)

“Skill-test counseling” means the school teacher will counsel the student to pass, such as TOEIC at least 750, and Level B technician for accounting. Moreover, the two methods can improve student’s learning attitude. The reason is because by motivating the student to pass the certificate of Level B technician for accounting, it can help the student to nurture good learning attitude.

Strategies for homeroom teacher:

1. Through “encourage” or “divide into group”

For the field of business teacher, “accounting” and “economic” are the most important subject of business. The interviewee is teaching “accounting”, which has an index test called Level B technician for accounting. Some of the student are afraid of the subject of “accounting”, and the interviewee will “encourage” and give student a concept that “if your future university is related to business, “accounting” will be an important subject”. Before test date for Level B technician for accounting, the interviewee will use the “Saturday counseling section” to help them. The method of teaching will be through “grouping” to discuss about any problem they encountered. The interviewee points out that this teaching method can not only increase the pass rate of the Level B technician for accounting, but also change their learning attitude and become more positive. (Senior vocational high school’s homeroom teacher A)

2. Through the form of “Q&A” or “run for Q&A”

The interviewee points out that the most important things is to change the

teaching methods because in the interviewee's class, most of the students' eye contact will be lost, while the interviewee was teaching. The interviewee suggests that using "Q&A" or "run for Q&A" to attract the students' attention and let them start discussions. Through this teaching method, the interviewee thinks that it will efficiently change the student's learning attitude and become more positive. (Junior high school homeroom teacher A)

 **Strategies for subject teacher:**

1. Through listening to student's psychological problem, diverse class teaching (課堂多樣化教學), such as cooperative learning, and off-campus visit

The interviewee thinks that "diverse class teaching" will increase student's learning positivity and change their learning attitude. Moreover, the interviewee must also care about student's mental situation because sometimes "diversification" is not fit to every student. Depending on the student's mental problem or their disrespectful attitude, maybe sometimes the interviewee needs to do "long-term counseling".

(Senior vocational high school's subject teacher A)

"Diverse class teaching", which includes cooperative learning, and off-campus visit, means that diverse way of teaching allows the student to learn from discussion. Moreover, this method can increase student's positivity on learning and gradually change their learning attitude.

 **Strategies for parents:**

1. Through accompany, change learning environment, and giving appropriate rewards

The interviewee points out that children's learning positivity, learning attitude, and personal learning environment is related because when the environment is not good, the degree for positivity will decline. Moreover, "environment" will influence

student's learning status, parents should accompany assist children's learning. The interviewee also points out that most of the senior high school's student will ask for the smartphone for rewards, but it is necessary to give rewards to children in an appropriate time, instead of letting children feel that if they have good grades, they will get rewards.

Strategies for students:

1. Through the encouragement and stimulation from peers or teachers; stimulating by the outside environment

The interviewee is usually an inactive, lazy, and evasive person. But the interviewee's teacher and classmate said a word to her, and now when she thinks of these two sentences, she will go to study. The teacher said, if you are affected by the environment, you will not be able to achieve anything in the future; the classmate said, why do you have such a horrible life? Every day is so ordinary and mediocre. Why do you live like this?

If you are positive enough, you will try to find some way to help yourselves. However, if you encountered different kind of people in different events or environment, maybe you will change your ways of study and learning attitude.

(Senior high school's students A)

F. Teaching styles of parents

From elementary school to junior high school

Strategies for principal:

1. Communicating with parents, and given correct value

For the part of "Teaching styles of parents", the interviewee points out that if children have some problem on their behavior or problems with adapting, the school will tell the homeroom teacher to communicate with the parents. The interviewee

thinks that the “teaching styles of parents”, or the value of the parents will influence the learning of the children. In society, what we think of “right” or “wrong” may not necessarily be judged in this way by parents, but the interviewee said that school provides a “positive” concept of “upbringing”, “education” or “value”. (Primary school principal A)

From the words of the interviewee, we can know that communicating with parent and giving them correct value can improve the teaching styles of parents. The reason is because if parents’ children has behavior problem, they need to do some communication with each other.

2. From “parent education (親子教育)” to complement the part of “parent do not pay attention to children”

From the part of “parenting”, the interviewee will encourage teacher to communicate more with parents, however, the interviewee thinks that teacher need to let parents know the problem of their children in school. Moreover, sometimes parents cannot take care of his or her children because of work, and the interviewee will apply for “after-school care class” or “open the classroom at night”, such as Night Angel Illumination Program, so the student can study and also make up for the children’s deficiency. (Primary school principal B)

3. Through “Line group” to communicate the information of “teaching styles of parents”

The interviewee will communicate in parent’s “Line group” to send some information, such as the context of “parenting”, the situation encountered by the children, “epidemic”, or the questions that parents need to notice, to discuss with them. The interviewee thinks that the Line group is better than communication book because it is more convenient to communicate, such as request for leave. (Primary

school principal B)

From the words of the interviewee, we can know that communication through “Line group” is more convenient to send the information of “teaching styles of parents” especially in rural areas because the number of the parents is few. Moreover, this strategy can improve the problem of “teaching styles of parents” in rural areas because if the parents encounter some problems, the school will provide solutions.

4. Through “Parents' Association” and “home visit” to communicate with the parents about children’s situation at home and in school.

For the special student in rural areas, the interviewee will ask the homeroom teacher to do “home visit”, because there are few students. Moreover, the interviewee will invite the parents or homeroom teacher to take care of the special education student. Most of the family background in the rural school which served by the interviewee is aboriginal students, New Taiwanese Immigrants, low-income family, signal parent, and grandparenting. (Primary school principal B)

From the saying of the interviewee, we find out that the method can solve the problem of “teaching styles of parents”. The reason is because when the children encounters some problems, the parent association, and homeroom teacher will do home visit to understand the situation of the children and his or her parents.

5. Invite some experts outside and have a speech

The interviewee points out that due to the small size of school and it is located in Tianliao, the school will gather Parent-Teacher Association Meeting and a speech on parent education. Because on that day, the parents will become attentive for the speech on parent education. The school will invite some expert outside, such as the speech of communication to teenagers. (Junior high school principal A)

Through the words from the interviewee, we can know that this method can help

solve the problem of “teaching styles of parents”. Moreover, the reason is because through school’s Parent-Teacher Association Meeting, it can help the parents know how to communicate with his or her children.

 **Strategies for school director of academic affairs:**

1. Through holding school’s activity, such as parents-child co-reading (親子共讀)

One of the activities, which can increase the relationship between parents and children, is “parent-children co-reading”. Moreover, to let parents, understand how to do the co-reading with children in class, the interviewee’s school has invited some expert of reading and writing. The interviewee thinks that in order to improve the “teaching styles of parents”, the activity of “co-reading” can increase the relationships between parent and children and promote growth. (Primary school’s school director C)

“Parents-child co-reading” is an activity usually held in rural areas. The school will find some off-campus expert share their opinions on how parents should understand how to communicate with his or her kids, and how to strengthen the connection between parent and children through co-reading. This method can help to improve the problem of “teaching styles of parents” because parents can use different ways to get along with their kids, such as parents-child co-reading.

2. Through teacher to understand the situation of child or through third party for help, such as social affairs bureau

For the “teaching styles of parents”, the interviewee will share information through “homeroom teacher” to care about students or let the homeroom teacher to understand the reason why these children are not respected by his or her parents. The interviewee’s school will apply for some funds to solve the student family’s economic

problem in order to not let parents use the excuse of being busy in work and ignore the part of “parenting”. For instance, in the interviewee’s school has some parents who suddenly encountered some change, such as their father is passed away. During this situation, children’s mother cannot take care of “parenting”, then the school will provide “emergency aid” for parent to get through.

Moreover, for the long-term help, if parents ignore “children’s upbringing”, the teacher will provide care for the student, and the school will also report to social affairs bureau. (Primary school’s school director B)

From the interviewee, we can find that this strategy can also improve the problem of teaching styles of parents. Moreover, the reason is because if the children faces some mental challenges due to their family problems, the school will assist with the third party, such as social affairs bureau, to communicate with his or her parents.

3. Through the help from “Counselors’ Office”, “Police Manpower (警力)”, and “social worker”; for the dropouts, the school will have a dropout meeting or Case seminar to communicate with the parents about the children’s situation in school or at home

The interviewee thinks that the school can find an assistant or some resources to help those students who do not have good “teaching styles of parents”. The interviewee’s school has similar cases, for example, some student cannot come to school on time because of their family function is not well. In this case, the school colleagues will occasionally go to find students, and after this event, the parents donate one hundred thousand to school.

If the student is dropout, the school will invite “police manpower” to intervene, and they will hold a case seminar or find “Counselors’ Office” to find out the reason and provide some solutions. (Junior high school director A)

 **Strategies for homeroom teacher:**

1. Through student's "schoolwork" and "interpersonal relations" to find out the problem

The interviewee teaches the six grade students in the primary school, and she points out that at this age, students can make decision and consider their future; however, the students always have some problems, usually shown on their poor "schoolwork" and "interpersonal relations". In the school, the interviewee will skillfully utilize their problem of "schoolwork" and "interpersonal relations" to talk to them personally. (Primary school homeroom teacher A)

From the words of the interviewee, we can figure out that this way can improve the problem of "teaching styles of parents". The reason is because through the schoolwork or interpersonal relations of the children, the school can understand what kind of problems the children encountered in his or her family and try to communicate with him or her.

2. Through "home visit" or "telephone interview" to contact parents; through the activity hosted by school, such as "Parent-Teacher Association Meeting"

The interviewee points out that if students have serious situation, the interviewee will adopt for the way of "home visit" or usually contact with the parents. When the students have any problem, the interviewee will proactively contact with the parent. On the other hand, the "parents" can come to participate "Parent-Teacher Association Meeting", and the purpose of this meeting is to communicate with parent about the problem of children. Moreover, before the start day of school, the interviewee will use "telephone interview" to understand if the student has any special situation to pay attention to. (Primary school homeroom teacher B) (Junior high school homeroom teacher A)

Strategies for subject teacher:

1. Participating in “Parent-child speech (親子講座)”, “camp” or through join the activity hosted by the school club

The interviewee points out that if the parents do not pay attention, the interviewee will recommend them to participate in “parent-child speech” because parents need to pay attention to this problem. For children, because the school will utilize weekend to prepare some camp, such as winter camp or summer camp. Especially for the camp, the interviewee points out that the school will invite some volunteer club’s student or find some expert to talk through specific issues, such as “epidemic”. (Primary school subject teacher A)

From the words of the interviewee, we can find out that this strategy can solve the problem of “teaching styles of parents”. The reason is because through attending the “parent-child speech”, the activity can help the parents to understand how to adjust the teachings styles of parents for the kids.

2. Give parents opportunity or through the ways of “encouraging”; through the mindset of “exchange the role” to help the children to grow up

For the parent who is “not pay attention, but they can”, the interviewee will give them opportunity or adopt for the ways of “encouraging” or even teach them some strategy, for example, by “encouraging” them to care more about their children and participate more about children’s affairs or activities, such as taking children to library or supporting their children to participate the speech match. In terms of verbal encouragement, the interviewee suggests that “praise” or “encourage” more to children can help to increase the relationships between each other. Moreover, for the “exchange the role”, the interviewee points out that due to some children having some problem on living, the interviewee will play the role as a mother to take care of him or

her. For example, there is one child who did not have regular time for eating breakfast, and lunch, then the interviewee will give him or her money to buy some breakfast or lunch. Sometimes the interviewee will go through “home visit” or “telephone interview” to understand the situation of the children. (Junior high school subject teacher A)

“Give parents opportunity” means that if the parents are not pay attention on parenting, but they can, the teacher will give them one more chance. The methods from the interviewee can solve the problem of “teaching styles of parent” because through the help from the teacher, the parents can understand how to interact with his or her children and gradually strengthen the relationships between each other.

3. Through “communication book” or “telephone interview” to communicate with parents

The interviewee points out that if she talks the problem of “upbringing” or “education” with parent, usually they will be against. At this point, the interviewee will change their mindset, and think about that the most important thing is to help the children to grow. Also, the interviewee will tell the parents about using their ways to care about children and she will tell the homeroom teacher and try to use “communication book” to understand the learning situation of the student and let the parents know what happed in school. Moreover, for the ways of communication with the parents, the interviewee thinks that using “telephone interview” not only can strengthen the relationships between each other, but also allows the parents to trust the teacher, especially for giving suggestion to them. (Junior high school subject teacher A)

Strategies for parents:

1. Let children participate in school camps or positively join the community’s

activity

The interviewee points out that getting children to participate in some activities, such as the camp from school. Moreover, in order to understand the children's life and increase the relationships between each other, the interviewee will positively join the activity to help the children, such as the activity hosted by "school worker", or in the community. (Primary school parent A)

From the words of the interviewee, we can find out that the strategy proposed by the interviewee can solve the problem of teaching styles of parent because if the children is lacking the teaching styles of parents, the children himself can join community activity more or some school camp.

2. Ask the "cousin" for help or communicate with "school's teacher"

If the parents are busy with work, they can ask a cousin or family to take care of the children. The interviewee also believes that more communication with "school teachers" is necessary in order to understand the children's situation in school. Moreover, the parents want to communicate more with the homeroom teacher about their children's problem of "conduct", "interpersonal relationships", and the interviewee hope can through telephone interview or face-to-face meeting with teacher. (Primary school parent B) (Junior high school parent A)

From the words of the interviewee, we can find the methods that proposed by the interviewee can improve the problem of teaching styles of parents. The reason is because if the parents do not know how to get along with the kids or parenting them, parents can ask their cousin for help to communicate with the kids' homeroom teacher.

Strategies for students:

1. Make some study friends

Make some “good” friends because the main problem for the interviewee is usually his friends will find him to go out to play, then the interviewee will forget schoolwork. Due to the “midterm examination” coming soon, then the interviewee should go to find friends who are studying. (Primary school student A)

From the words of the interviewee, we can find out the method that proposed by the interviewee can solve the problem of teaching styles of parents. The reason is because if the parents do not really pay attention on parenting, the children can make some study friends to push himself to move forward.

2. Nurturing the capacity of autonomy

The interviewee thinks that nurturing the capacity of autonomy, such as actively studying or ask a classmate or teacher about the question that interviewee does not know. (Junior high school student A)

From the words of the interviewee, we can find that the strategy proposed by the interviewee can solve the problem of teaching styles of parents. The reason is because if the parents does not pay attention on the teaching styles for children, the children need to nurture himself to have the capacity of autonomy.

From junior high school to senior high school

🚦 Strategies for principal:

1. Through “telephone interview”, “communication book”, or “field home visit (實地家庭訪問)”

If the parents do not pay attention to the problem of “teaching styles of parents”, the interviewee will ask the “homeroom teacher” to pay more attention to that student, and the interviewee’s school will through “telephone interview” or using “communication book” to communicate with parents or do a “field home visit”.

(Senior high school principal A)

2. Through participating in the workshop or courses held by the counseling office and convey the positive value of “family education” for the parents

In every academic year, the school which served by the interviewee will hold “Parent-Teacher Association Meeting”, “growth courses” or “counseling education courses”. Moreover, about 60%~70% student’s family background is “low-income family”, and other is new Taiwanese immigrant, grandparenting, or single parent family. The interviewee suggests all the parents can come to participate in the “Parent-Teacher Association Meeting” because through this meeting, it can let “homeroom teacher” and parents build a relationship with each other. (Senior high school principal A)

From the words of the interviewee, we can find out that the methods proposed by the interviewee can solve the problem of teaching styles of parents. The reason is because Parent-Teacher Association Meeting or growth courses, can help the parents understand more about how to do teaching styles of parents for his or her kids.

Strategies for school director of academic affairs:

1. Through “school’s education” to help them find out their future direction

The interviewee points out that no matter if in a position of the head of department or teacher, everyone should consider “education” first. This is most important because every “parent” comes from different family, in terms of technological and vocational education, the interviewee figures out that the social status of parents are often relatively weak, so the education for children is not so important. Because parent’s job is less in terms of “stable” jobs, most of their jobs are “mobile” or “business”, which is hard to pay attention to the schoolwork of the children. Moreover, for teacher, the interviewee points out that the most important is how to induce student’s interests, and let the student develop their own path according

to their choice or interest. (Senior vocational high school's school director A)

From the words of the interviewee, we can find out that the methods proposed by the interviewee can improve the problem of teaching styles of parents. The reason is because if the children is lacking the teaching styles of parents, the school will provide "education" to supplement the lack of teaching styles of parents.

2. Through "home visit"

No matter the student's family background, the interviewee points out that every student in the interviewee's class will need to do "home visit". The purpose of "home visit" is to understand the whole situation of the family, including understand parent's working situation, and the daily life of the children. The interviewee thinks that they can get closer to their parents through "home visit". (Senior vocational high school's school director A)

Strategies for homeroom teacher:

1) Instilling some ideas for student, such as you need to have specialty

The interviewee points out that although three meals are very important, you are still a student, you need to learn specialty, such as cooking or accounting. If you have specialty, you can use that for living. (Senior high school homeroom teacher A)

From the words of the interviewee, we can figure out that this method can complement the lack of teaching styles of parents. The reason is because through explaining the importance of the specialty, the student can move forward even they lack teaching styles of parents.

Strategies for subject teacher:

1. Invite "parents, students" come to school to communicate with "subject teacher"

The interviewee points out that if the students are not recognizing the parents'

“teaching style”, the interviewee will lead them to do some life plan, or short-term, current-term, and long-term plan. Moreover, the interviewee will also adopt the ways of “invite parents come to school” because the interviewee thinks that through the three parts to do communication, it can let the parent really pay attention to the problem of “Teaching styles of parents”. (Senior high school subject teacher A)

Strategies for parents:

1. Communication

The interviewee points out that starting with normal living habits, we must do “communication” with each other. For example, in junior high school or senior high school, if the children do the wrong things, the interviewee will tell them the reason to not swear. The purpose of this is to let them understand the consequences of using the wrong words and to transform it into their learning motivation. Through “communication” can let parent grow with their children. (Senior high school parent A)

Strategies for students:

1. Having your own goal

According to the interviewee, because your parents do not pay attention of your “upbringing”, the school teacher will most likely not care as well, but besides the situation you are still a very excellent student. The interviewee thinks that goal is like your dream, for example, some people study English to be a female flight attendant, or to go aboard. Moreover, the interviewee thinks that she is an example of the situation listed above, because her parents do not pay attention, and if you do not have good performance in school, the teacher will not pay attention to you. (Senior high school student A)

From the words of the interviewee, we can figure out that this method can

supplement the lack of teaching styles of parents. The reason is because if the teacher and parents do not really pay attention on you, and you set your own goal and accomplish your own dream.

G. Culture stimulation

From elementary school to junior high school

✚ Strategies for principal:

- 1. To cooperate with “charity” or “Social Welfare Group”, such as “Rotary Clubs”, “Lions Clubs International” to supplement the needs of materials and the lack of funds; through the funds from “Maritime Affairs Bureau” to improve the part of “deficiency of the culture stimulation”**

The interviewee’s school has strived for funds from public sector, and recently the school has taken student to Chiayi’s Southern Branch of National Palace Museum to increase student’s multi-culture. The interviewee has also applied for funds from “Maritime Affairs Bureau”, and uses this fund to let the student understand the local culture of Kaohsiung, such as light rail, ferry, and airport. On the other hand, for the part of “private sector”, such as “Rotary Clubs”, and “Lions Clubs International”, which donate some rice or capital to school, then the interviewee will go through these charitable contribution to supplement field trip or other activity. (Primary school principal B)

From the words of the interviewee, we can know that the methods proposed by the interviewee can solve the problem of insufficient culture stimulation. The reason is because through cooperation with “charity”, and “social welfare group”, it can help the student get different cultural stimulation. Also, the school will also apply for some funds from the public sector, and use that to hold some events, such as field trip, and camp, to give students different stimulation especially in rural areas.

2. Morning teaching

The interviewee's school will invite parents or community, or even expert from the society enter school to share. Moreover, the interviewee points out that "morning teaching" including reading, Analects of Confucius, Jing-Si Aphorism, and Character Education. Some parents will bring some handicrafts, in which the homeroom teacher will design the theme according to parents' expertise. (Primary school principal A)

From the words of the interviewee, we can understand that this method can help the student to increase culture stimulation. The reason is because "morning teaching" can let the student absorb diverse knowledge, such as Analects of Confucius, Jing-Si Aphorism, and Character Education.

3. Through "Multi-activation Curriculum (活化課程)" to understand each industry; exchange to other counties and cities

The interviewee's school pays attention to the "culture stimulation", especially for the students in rural areas. The interviewee points out that every year, the school will apply for various activity, such as "exchange to other countries or cities", and outdoor education. In the "Ministry of Education", there is a project of multi-activation curriculum, which mainly wants to let student know about different industries. However, there is one part of "Multi-activation Curriculum", which lets student do multi-activity.

The interviewee points out that there is one part for the rural to apply, and the school apply for exchange to other cities and countries to do music exchange; in rural areas, the proportion of New Taiwanese Immigrant is very high in rural areas, for instance, the interviewee's school has been doing experience of multi-culture in Yuanfu junior high school. Also, the interviewee's school has taken the student to farm or Tai-Wha Pottery to understand the operation of the local industry. (Junior high

school principal A)

“Multi-activation Curriculum” means that the students can through this course understand more about each industry or the culture of new immigrants. Moreover, the methods that proposed by the interviewee can solve the problem of insufficient cultural stimulation. The reason is because through diverse activity, such as multi-activation curriculum, and off-campus visit, can help the student understand more about each industry and broaden their knowledge.

4. Through “oversea university” or “distance learning” to increase student’s world vision

The interviewee points out that “culture stimulation” is not limited because of the small scale of the school. Moreover, the school which served by the interviewee has cooperation with Re-fung senior high school’s “English class” and does one to one “English Video Interaction”. (Primary school principal B)

🚦 Strategies for school director of academic affairs:

1. Take student out to visit or watch performance

In the school which served by the interviewee, in fact, the chance for student to go out is rare. On other hands, for “parent”, they are relatively busy maybe because their social status is low and do not have time to take children to museum. The school will not only take students to Weiwuying or culture center to see performance, but also plan some field trip, which route is designed by school. (Primary school director C)

From the words of the interviewee, we can know that this method proposed by the interviewee can solve the problem of insufficient culture stimulation. the reason is because for the student in rural or remote areas, they have rare opportunity to have field-trip or go out to visit somewhere, the school will strive for some funds to help

these students and try to ease the problem of culture stimulation in rural areas.

2. Through “after-school club” or camp in winter or summer vacation

The interviewee points out that after class the school will have clubs, and during summer and winter vacation, there will also have some camps for the students to participate in. Moreover, the interviewee thinks that these activities can broaden student’s vision. (Primary school director B)

3. Activities held by school’s office, or through industry sponsorship to help student increase culture stimulation

The interviewee said that every office will hold some events or activities, such as the interviewee’s school will find the district office to promote “anti-drug”; Counseling office will find various resources to enter the school, such as career exploration, high care courses ; Academic affairs office will find some “successor in the industry”, such as “Rotary Clubs”, “Lions Clubs International”, and “library”. (Junior high school’s school director A)

4. Through every subject teacher’s assistant, for example, after English teacher go aboard, and invite some foreign friends to do sharing

For the international education, the interviewee will through “AIESEC” or “Rotary Clubs” to cooperate. Moreover, the interviewee points out that the academic affairs office will find the foreigner who is lived here for a period, such as Canada’s foreign teacher. Also, through “English Teacher” invite her “foreign friends” to come to Taiwan and share their knowledge. (Junior high school’s school director A)

From the words of the interviewee, we can figure out that the method proposed by the interviewee can ease the problem of culture stimulation. The reason is because through introducing the foreigner teacher into school, and sharing of their country’s culture can help the student broaden their world vision.

Strategies for homeroom teacher:

1. Through the assistant from local cultural and history workshops

The interviewee points out that most of the “local cultural and history workshops” help the children to know more about the culture of their hometown. In rural areas, it is very usual to see parents always working, and they do not have time to accompany with children, most of the time, they will send children to after-school class. In order to help the children to find some opportunity to deeply understand the culture of the land or more cultural stimulation, the assistant from local cultural and history workshops is the better choice. (Primary school homeroom teacher A)

From the words of the interviewee, we can find that the methods that proposed by the interviewee can solve the problem of deficiency of culture stimulation. The reason is because the assistant from the history workshop can facilitate the students in rural areas to learn more about local culture.

2. Through reading nice website or the sharing from parents

The interviewee will encourage the students to do reading, also the interviewee will recommend some good websites for the parents to find opportunity to interact with their kids. Moreover, if the parents have some kind of talent, and the interviewee will encourage these parents to enter class and bring some activity to stimulate their knowledge and culture. (Primary school homeroom teacher B)

3. Invite “the graduate students” back to share their experiences

The interviewee usually will hold an event in one semester, which is about inviting the graduate students to share their past experiences. The reason why the interviewee wants to invite these graduate students is because junior high school’s student only thinks of themselves at this age, and did not go out to see the world. However, the interviewee hope through this event can help the children to consider

what kind of ability do they lack of? And during the age of junior high school, what kind of things they need to strengthen. (Junior high school homeroom teacher A)

From the words of the interviewee, we can find out that this method can help the student have different culture stimulation. The reason is because through the sharing of experience from the graduates can help the student in junior high school to obtain some different stimulation.

Strategies for subject teacher:

1. Design English camp or participate in school club

In the past, the interviewee worked Pingtung, the interviewee points out that if teacher really pay attention to the problem of “culture stimulation”, the teacher will design some English camp or other local language, such as Haka. Also, in order to increase more “culture stimulation”, the interviewee will participate some activity or workshop, hosted by the Ministry of Education. On the other hand, students can through school club to increase their stimulation of culture. (Primary school subject teacher C)

2. Through speech to increase the stimulation of students; cooperate with NGOs or introduce Taiwan’s foreign students

The interviewee points out that students rely on school activity to learn about the culture of various country, and they do not have any route to know other country’s culture. The school has opportunity to cooperate with NGOs, which can let the children to know more about the country’s culture. Moreover, the school activity, such as speech, and the school which served by the interviewee will find out some Thailand’s culture or drinking culture, usually the focus is on a “single culture”. The interviewee has introduced some international education’s teacher, such as Mongolia, to enter the school to share his or her country’s culture. (Junior high school’s subject

teacher A)

3. Through the courses of world vision to let the student understand the geographic location, wearing, traditional custom of each country

In the last year, the interviewee' has design a course called "world vision", the interviewee points out that this course will introduce about other country's culture, such as the geographic location, clothing, traditional custom, and eating habits of each country. Through the ways of "presenting" to let the students understand the issue that occurred in that country or culture. (Junior high school's subject teacher A)

 **Strategies for parents:**

1. Go abroad to experience different life style

The interviewee recommends to go abroad with parents. Due to the other parents are manage the English cram school, they will encourage the student to go to Los Angeles to experience different world vision. Only as long as the student are willing and parents will provide any chances for them. (Primary school parents A)

2. Through camp or the learning resources on the internet or distance learning

The interviewee will let her children to participate some camps, or in weekend, the interviewee will take the children to city center to join some "art activity". Moreover, at home, the interviewee thinks that "Internet" learning can let the children obtain different stimulation. (Primary school parents B)

3. Get in touch with some art lecture or go to library

The interviewee points out to take the children to visit the bookstore or library, and the most important is to get in touch with some art lectures. (Junior high school parents A)

 **Strategies for students:**

1. Through the data on the internet or introduce country's culture on YouTube;

through watching the gaming strategy or participate some camps to increase self-global vision

The interviewee likes to meet other country's people, and search for some data or website, such as self-made foreign culture's website. Moreover, the interviewee thinks that he can use YouTube to see how to make foreign culture's website, and use this opportunity to understand other country's culture. the interviewee will watch the gaming strategy or take initiative to participate in some camp, such as culture exploration camp from AIESEC. (Primary school student A)

2. Borrow more books or go abroad

The interviewee will go to library to borrow some books, such as the culture of Japan and Australia, and the interviewee will try to watch some related clips. Last time, the interviewee has gone to Thailand, and after that the interviewee has broaden her world vision. (Junior high school student A)

From junior high school to senior high school

 **Strategies for principal:**

1. Apply for some activity

The interviewee points out that they have applied for the international exchange for SM, and because of the geographical location of the school in rural areas, it is difficult for the students to go abroad. The school will cooperate with the school in city center because the school in city center will have some exchange students from other country, then the school which served by the interviewee will ask them to give them 4~6 quota to have some interaction with them. (Junior high school principal A)

From the words of the interviewee, we can find out that the method proposed by the interviewee can ease the problem of deficiency on culture stimulation. The reason is because through participating diverse activity can help the students especially in

rural areas to have different stimulation.

2. Through school's club to let student have diversified interest development (多元興趣發展); through the international match from "school club" to increase their world vision

The interviewee points out that in Liou-Guei district, the "culture stimulation" is very few, and the interviewee will utilize some project, such as Off-campus visit, and in the interviewee's, school has some counterpart club to help student have multi-activation development. Among the school, the biggest club is "choir", where students can through participate in "choir" competitions to broaden their global view. (Senior high school principal A)

Diversified interest development means using different school club to help the student especially in rural or remote areas. The methods proposed by the interviewee can help to ease the deficiency of culture stimulation. The reason is because through international match or diversified interest development can help the student to develop different kind of interest and stimulate different aspects.

 **Strategies for school director of academic affairs:**

1. Through school's "Counseling section", including "winter counseling", "summer counseling", and "night counseling" to help student practice their "skill-test counseling" or enhance student's schoolwork

In terms of private school, if the student who do not like to study or have worse learning performance, the interviewee will suggest them to go to "counseling section", including "winter counseling", "summer counseling", and "night counseling". The interviewee hopes to arrange for the course of "deepen and broaden" to help the student who want to study; for the student who do not want to study, the interviewee will arrange for "skill-test counseling". Through this arrangement, the

interviewee hope the students can learn something from the “counseling section”, and by stimulating their knowledge and different culture perspective. (Senior vocational high school’s school director A)

From the words of the interviewee, we can observe that the methods proposed by the interviewee can solve the problem of insufficient culture stimulation. The reason is because the student in rural or remote areas have less opportunity to join the course, such as “winter counseling”, “summer counseling”, and “night counseling”, through the counseling section can help the student to absorb more about the knowledge and increase more stimulation.

Strategies for homeroom teacher:

1. Through the exchange between school and school; be an exchange student

From the part of “teacher”, the interviewee will suggest the school or the head of department or even academic affairs offices to hold more activity of exchange between school and school, such as workshop or school club’s activity. For students, if their economic situation of the family can afford it, the interviewee suggests that they can strive to be an exchange student; however, if the economic situation of the family cannot afford it, then the interviewee will suggest he or she to find some internship for experience. Through these two ways, the interviewee thinks that it can help the student to have more culture stimulation. (Senior vocational high school’s homeroom teacher A)

The methods proposed by the interviewee can improve the problem of insufficient culture stimulation. The reason is because through being an exchange student or exchange between schools can help the student in rural areas to obtain diverse resources and different stimulation.

Strategies for subject teacher:

1. Through “school’s foreign teacher” or the resources from the internet, curriculum diversity, or doing “Educational Visit to Foreign Countries”

In terms of the children in urban areas, the interviewee points out that they can receive a lot of information, including internet, school’s foreign teacher, and curriculum diversity. On the other hand, in order to increase student’s global vision, the interviewee suggests that student can participate in the program of “Educational Visit to Foreign Countries”. (Senior vocational high school’s subject teacher A)

From the words of the interviewee, we can figure out that these methods can help to ease the problem of deficiency on cultural stimulation. The reason is because though communicating with the foreign teachers or doing “Educational Visit to Foreign Countries” can let the student have different culture stimulation and broaden their world vision.

 **Strategies for parents:**

1. Go to cram school or communicate with foreigners

The interviewee points out that children must be exposed to English and should be cultivated from an early stage. Moreover, the interviewee suggests the student go to cram school and encourage student to contact with the foreigners. (Senior high school’s parent A)

From the words of the interviewee, we can find that the way proposed by the interviewee can increase the culture stimulation of the student. The reason is because through cram school or communication with foreigners can help the student broaden their knowledge and increase their culture stimulation through communication.

 **Strategies for students:**

1. Participating the club of international organization; Meet more foreign friends or New Taiwanese immigrants

The interviewee points out that if the school does not hold events, in fact, most of the students' knowledge of different cultures are obtained from the book by teacher's teaching. Moreover, another way to stimulate culture is to join AIESEC, or meet some new Taiwanese immigrants. Through these two ways, which can broaden your world vision. (Senior high school student A)

2. Influence by the environment

After joining a school club, such as AIESEC, the interviewee finds out some problem of rural and urban area, then the interviewee thinks that in rural area, the school director will find some resources to help their kids, but for the urban area, in general, they do not really pay attention on these resources. (Senior high school student A)

The methods proposed by the interviewee can help to solve the problem of insufficient culture stimulation. The reason is because if your surroundings have foreigners, which can help you to understand different country's culture and broaden your world vision.

Research Hypotheses

According to the case study, we can find out that the six variables, including educational expenditure, Teacher resources (teacher-pupil ratio), the amount of books collection, and family income, will cause discrepancy in rural-urban gap. Moreover, according to the theory of “Equality of Educational Opportunity”, which points out that the inequality of distributing the educational resources, the allocation of different classes for different background’s students, and the difference of curriculum for low background’s students. However, we can figure out that these factors will causes the “rural-urban gap”.

Past research shows that personal education attainment and urbanization degree in the living areas has consistent relations.³³ From this statement the situation of “rural-urban gap” will influence personal “academic achievement and attainment”. Therefore, the researcher lists down four hypotheses to validate that whether educational expenditure, teacher resources (teacher-pupil ratio), the amount of books collection, and family income, have differences in the rural-urban gap.

1. Factor of educational expenditure

According to Shih-Ying Hsueh (2014), who points out that based on the rules of horizontal equity, every student should share with equality of educational expenditure, teacher and facilities resources, basic education courses, teacher-pupil ratio, and opportunity for career.³⁴ From the rules of horizontal equity, we can clearly know that the problem of each resources should be divided equally. Moreover, from this research, the researcher finds some data from each junior high school’s website of

³³ Hu, " 群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-2007".

³⁴ 薛詩穎, ". 澎湖縣國民中小學教育資源分配公平性之研究.", (2014).

accounting office. However, after comparing with urban and rural areas' educational expenditure in each junior high school, we can figure out that there has a problem of “inequality of educational resources allocation” (Table 9.-Table 10.).

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	112,777	170,124,000	144,882,000	209,333,000	109,706
Rural area	27,579	257,132	19,958,000	39,461,000	56,982
Differences in educational expenditure	85,198	169,866,868	124,924,000	169,872,000	52,724

Table 11. The statistics of the differences in education expenditure

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中's educational expenditure in 107 academic year)

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	123,602,000	110,539,000	3,600,000	10,100,000	89,149,000
Rural area	74,098,000	17,546,000	2,025,000	3,047,000	38,625,000
Differences in educational expenditure	49,504,000	92,993,000	1,575,000	7,053,000	50,524,000

Table 12. The statistics of the differences in education expenditure

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's educational expenditure in 107 academic year)

From the data, we can list down the hypothesis:

H1: Educational expenditure has differences in rural-urban gap

2. Factor of teacher resources

For this part, the researcher uses “Teacher-pupil ratio” to calculate the differences of teacher resources. The definition of “Teacher-pupil ratio” refers to the ratio of the number of teachers and students and it is usually based on the average number of

students to be taught by each teacher.³⁵ In general, theoretically, the fewer the number of the students to be taught, the more attention each student can get.³⁶ Moreover, according to Hanushek (2006), who states that in the statistically significant research, it shows that the smaller the teacher-pupil ratio, the more positive the result is. It means that if one teacher can afford less student, the student's education performance will become well. From this research, we can find out the differences from the government data between rural and urban areas (Table 11.- Table 12.).

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	8.7	11	11.4	10.4	10.6
Rural area	5.3	4.4	4.3	7.5	9.4
Differences in teacher resources	3.4	6.6	7.1	2.9	1.2

Table 13. The statistics of the differences in teacher resources

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中's teacher resources in 107 academic year)³⁷

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	9	7.1	7.9	9	7.3
Rural area	7.3	5.5	6	4.5	6.4
Differences in teacher resources	1.7	1.6	1.9	4.5	0.9

Table 14. The statistics of the differences in teacher resources

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's amount of teacher resources in 107 academic year)³⁸

From the data, we can list down the hypothesis:

³⁵ 蘇永明, "師生比 Teacher-Pupil Ratio," in 國家教育研究院 雙語詞彙、學術名詞暨辭書資訊網, ed. 教育大辭書 (國家教育研究院 2000).

³⁶ Ibid.

³⁷ 統計處, "國民中學校別資料."

³⁸ Ibid.

H2: Teacher-pupil ratio has differences in rural-urban gap

3. Factor of the amount of books collection

From the research of Shih-Ying Hsueh (2014), we can figure out that due to the rural-urban gap, most of the population gathers in the city, which results in many students in urban schools.³⁹ However, the number of students in remote and outlying areas are decreasing year by year that causes the gap to become bigger and bigger in the distribution of the average number of books per students.⁴⁰ According to the data from National Reading Promotion and Book Management System Network (全國閱讀推動與圖書管理系統網), we can find out that there really is a discrepancy on the average number of books per students in the area of rural and urban areas (Table 13.- Table14.).

	New Taipei	Hsinchu	Miaoli	Taichung	Changhua
Urban area	22,028	19,644	15,664	39,696	19,291
Rural area	11,664	9,435	8,758	200	17,983
Differences in the amount of books collection	10,364	10,209	6,906	39,496	1,308

Table 15. The statistics of the differences in the amount of books collection

Sources: Edited by the researcher (新北市汐止國中、石門國中, 新竹縣成功國中、五峰國中, 苗栗縣照南國中、獅潭國中, 台中縣清水國中、大安國中, 彰化縣彰安國中、線西國中's amount of books collection in 107 academic year)

	Chiayi	Kaohsiung	Hualien	Taitung	Penghu
Urban area	18,376	16,812	11,135	20,152	12,515
Rural area	8,154	5,331	10,169	12,966	11,986
Differences in the amount of books collection	10,222	11,481	966	7,186	529

³⁹ 薛詩穎, "澎湖縣國民中小學教育資源分配公平性之研究," (2014).

⁴⁰ Ibid.

Table 16. The statistics of the differences in the amount of books collection

Sources: Edited by the researcher (嘉義縣朴子國中、義竹國中, 高雄縣鹽埕國中、田寮國中, 花蓮縣宜昌國中、光復國中, 台東縣東海國中、賓茂國中, 澎湖縣文光國中、湖西國中's amount of books collection in 107 academic year)

From the data, we can list down the hypothesis:

H3: The amount of books collection has difference in rural-urban gap

4. Factor of family income

According to Wodtke et al (2012), who finds out that family's economic resources will influence children's academic attainment, and change with the socio-environment.⁴¹ What's more, conforming to the data from every city government's department of Budget, Accounting, and Statistics, we can figure out that there are some differences of "family income" in both rural and urban areas, especially in New Taipei, Taichung, and Kaohsiung.

	New Taipei		Taichung		Kaohsiung	
	The number of people	per capita income	The number of people	per capita income	The number of people	per capita income
Urban	164,997	535,305	239,058	523,422	176,865	459,124
Rural	178,110	566,195	156,617	472,240	34,112	440,808

Table 17. The statistics of the family income

Sources: Edited by the researcher (Report on the survey of family income and expenditure in 107 academic year)

From the data, we can list down the hypothesis:

H4: Family income has differences in rural-urban gap

⁴¹ Hu, "群聚效應:教育城鄉差距的根源、變遷與軌跡 Cluster Effect on Educational Attainment: The Rural-Urban Gap under Educational Expansion and Tracking Trajectory in Taiwan, 1978-2007".

DATA ANALYSIS

Independent-Sample t test

In this part, the researcher will validate the six hypotheses through “Independent-Sample t test”, the purpose is to understand whether the six variables have differences in rural-urban gap.

From the table below, we can see the results of the Independent-Sample t test, and the explanation of each hypotheses.

Table 18. Independent-Sample t test for the differences

Variables	Rural-urban	Number	Mean	Std. Deviation	T-value
Educational expenditure	U	247	108261162	80718045.2	14.196***
	R	48	250409123	19581566.4	
Teacher-pupil ratio	U	247	8.351	2.1145	79.591***
	R	48	5.183	1.9838	
The amount of books collection	U	247	20249.55	10935.571	10.014***
	R	48	10807.08	4408.405	
Family income	U	247	687470.14	185167.018	3.262**
	R	48	783573.25	195040.354	

*p<0.05; **p<0.01; ***p<0.001

Source: Edited by the researcher

H1: Educational expenditure has differences in rural-urban gap

From Table 18., we can figure out that educational expenditure has significant differences in rural-urban gap. The reason is because its t value is 14.196***, and p-value is 0.000<0.001***. What’s more, from this result we can clearly know that the rural areas are significantly higher than urban areas. Therefore, H1 is supported.

H2: Teacher-pupil ratio has differences in rural-urban gap

From Table 18., we can figure out that teacher-pupil ratio has significant differences in rural-urban gap. The reason is because its t-value is 9.591***, and p-

value is $0.000 < 0.001^{***}$. From the result, we know that urban areas have higher significance than rural areas. Therefore, H2 is supported.

H3: The amount of books collection has difference in rural-urban gap

From Table 18., we can figure out that the amount of books collection has significant differences in rural-urban gap. The reason is because its t-value is 10.014^{***} , and p-value is $0.000 < 0.001^{***}$. This result shows that urban areas have higher significance than rural areas. Therefore, H3 is supported.

H4: Family income has differences in rural-urban gap

From Table 18., we can figure out that family income has significant differences in rural-urban gap. The reason is because the t-value is -3.262^{**} , and p-value is $0.00 < 0.01^{**}$. From this result, we can figure out that rural areas have higher significance than urban areas. H4 is supported.

Research results

From the above analysis, after concluding this research, the research hypotheses verification is shown in underneath (Table 19).

Table 19. Hypotheses Verification Results

Number	Hypotheses	Results
H1	Educational expenditure has differences in rural-urban gap	Support
H2	Teacher-pupil ratio has differences in rural-urban gap	Support
H3	The amount of books collection has difference in rural-urban gap	Support
H4	Family income has differences in rural-urban gap	Support

Source: Edited by the researcher

CONCLUSION AND SUGGESTION

In sum, after doing this research, we can figure out that the issue of “rural-urban gap” is very important. Moreover, there are seven factors that will causes rural-urban gap, including educational expenditure, teacher resources, the amount of books collection, family income, student’s learning attitude, teaching style of parents, and culture stimulation. In order to investigate more about the discrepancy of rural-urban gap, the researcher uses Independent-Simple t test to test whether it has discrepancy or not. However, from the results, we can observe that the factors of educational expenditure, teacher-pupil ratio, the amount of books collection, family income, hardware equipment resources, and academic achievement has differences in rural-urban gap.

Furthermore, under the influences of rural-urban gap, this research through different school factors of school level to analyze some strategies to solve rural-urban gap. Therefore, there are some main strategies in every factor,

1. Educational expenditure:

The main strategies for educational expenditure is implemented “writing competitive project (競爭型計畫)”, and the “remote school program”, both of which are provided by the Ministry of Education. Writing competitive project is a way for schools to distribute funds fairly through competition, such as a reading competition. Remote school programs are very important because it allows schools in remote or rural areas to apply for the program to obtain more funds. Overall, these two projects can increase the educational expenditure and resources of schools.

2. Teacher resources:

The main strategies to improve teacher resources is through non-governmental

organizations, such as “Teach for Taiwan (為台灣而教)”, and teacher self-enhancement. “Teach for Taiwan” is a non-governmental organization that teaches volunteers about how to be a teacher, and then introduces these volunteers into rural or remote areas to teach students. On the other hand, teacher self-enhancement allows teachers to participate in workshops to improve their overall teaching quality and style. These two methods allow teacher resources and quality of teaching to improve in both rural and urban areas.

3. The amount of books collection:

The main strategies to increase the amount of books collection is through the Ministry of Education or through the Education Bureau to apply for funds and cooperate with local libraries. Through the Ministry of education or the Education Bureau, the school can write some program to apply for some funds and use that to buy new books. On the other hand, cooperating with local libraries allows schools to make appointments where books are transferred from the library to the school. Overall, both these methods can not only increase the number of books collected for schools, but also increase students’ reading abilities.

4. Hardware equipment resources:

The main strategy here are obtaining help from the enterprises or private institutions. More specifically, this allows schools in rural or remote areas to ask enterprises or private institutions for help, such as City Bank, TSMC, or Tzu Chi. Through these methods, schools can increase their hardware equipment resources and improve their lack of hardware equipment.

5. Student learning attitude:

The main strategies here are through “flipped education (翻轉教育)”, and “field characteristic activity (領域特色活動)”. “Flipped education” means that teachers

allow students to learn online while creating deeper discussions about specific courses. On the other hand, “field characteristic activity” means that teachers can design activities related to different subjects including Chinese, Math, English, Social Studies, or Science. For example, for Chinese, a teacher can hold a Chinese Pronunciation & Word Form Contest (字音字形比賽); for social studies, a teacher can hold prize quizzes (有獎徵答); for Math and English, a school can hold a week for English or Math. Overall, these two strategies allow students to improve their attitudes to learning and become more actively engaged.

6. Teaching styles of parents:

The main strategies here are “Parent-Teacher Association Meeting (親職座談會暨班級家長會)”, and “home visits”. “Parent-Teacher Association Meetings” allows teachers to communicate with parents about the problems their children may be facing in school; this event will often be held once per semester. On the other hand, “home visit” allow homeroom teachers to obtain deeper understandings about a student’s family status. Both these strategies not only give a better understanding about the teaching styles of students’ parents, but also allow teachers to improve the problems between parents and their children.

7. Culture stimulation:

The main strategies here are partnerships with non-governmental organizations such as AIESEC, and through “Multi-activation Curriculum (多元活化課程)”. Cooperating with non-governmental organizations such as AIESEC allows students from these schools to be matched for international volunteer opportunities. On the other hand, “Multi-activation Curriculum” allows students to gain more understanding about different industries and the cultures of new immigrants. In summary, these strategies can broaden both students’ cultural perspectives and overall knowledge.

Therefore, the researcher suggests to apply and implement the strategies listed above in both rural and urban areas because these strategies can let the school - no matter in rural or urban areas - to get substantive help.

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APENDIX OF THE DISTRIBUTION FOR THE SCHOOLS IN TAIWAN

The tables below are the sample for the 295 schools in Keelung, Taipei, New Taipei, Hsinchu, Miaoli, Taichung, Changhua, Chiayi, Kaohsiung, Hualien, Taitung, and Penghu city. However, the measure of the urban and rural areas is depended on each city's population in 107 academic year.

Keelung (U:6)

	Administration districts	School
Urban area	安樂區	武崙國中
	暖暖區	明德國中
	中正區	碇內國中
	中正區	正濱國中
	仁愛區	中正國中
	七堵區	銘傳國中

Taipei (U:43)

	Administration districts	School
Urban area	萬華區	萬華國中
	萬華區	雙園國中
	萬華區	龍山國中
	南港區	誠正國中
	信義區	永吉國中
	信義區	瑠公國中
	松山區	介壽國中
	松山區	民生國中
	松山區	中山國中
	松山區	敦化國中
	北投區	北投國中
	北投區	新民國中
	北投區	明德國中
	北投區	桃源國中
	北投區	石牌國中
	北投區	關渡國中
	文山區	北政國中
	文山區	景美國中

	文山區	景興國中
	內湖區	麗山國中
	內湖區	三民國中
	內湖區	東湖國中
	內湖區	明湖國中
	中正區	螢橋國中
	中正區	南門國中
	中正區	弘道國中
	中山區	長安國中
	中山區	北安國中
	中山區	新興國中
	中山區	五常國中
	中山區	濱江國中
	大安區	仁愛國中
	大安區	金華國中
	大安區	民族實驗學校
	大安區	龍門國中
	大同區	建成國中
	大同區	蘭州國中
	大同區	重慶國中
	士林區	士林國中
	士林區	至善國中
	士林區	格致國中
	士林區	福安國中
	士林區	天母國中

 **New Taipei (U:35, R:1)**

	Administration districts	School
Urban area	八里區	八里國中
	三芝區	三芝國中
	三重區	三和國中
	三重區	二重國中
	三重區	光榮國中
	三重區	明志國中
	三重區	碧華國中
	三峽區	安溪國中
	中和區	積穗國中
	中和區	漳和國中
	中和區	自強國中

	五股區	五股國中
	汐止區	汐止國中
	汐止區	青山國民中小學
	板橋區	中山國中
	板橋區	大觀國中
	板橋區	忠孝國中
	板橋區	新埔國中
	板橋區	江翠國中
	板橋區	溪崑國中
	板橋區	重慶國中
	林口區	佳林國中
	林口區	崇林國中
	泰山區	義學國中
	淡水區	正德國中
	新店區	文山國中
	新店區	五峰國中
	新莊區	新莊國中
	新莊區	福營國中
	新莊區	新泰國中
	新莊區	頭前國中
	瑞芳區	欽賢國中
	蘆洲區	鷺江國中
	蘆洲區	蘆洲國中
	鶯歌區	鶯歌國中
Rural area	石門區	石門國民中學

 **Hsinchu (U:15, R:5)**

	Administration districts	School
Urban area	東區	培英國中
	東區	光武國中
	香山區	富禮國中
	香山區	內湖國中
	竹北市	竹北國中
	竹北市	仁愛國中
	竹北市	成功國中
	竹東鎮	二重國中
	竹東鎮	自強國中
	新埔鎮	照門國中
	關西鎮	關西國中

	關西鎮	富光國中
	湖口鄉	新湖國中
	湖口鄉	中正國中
	新豐鄉	新豐國中
Rural area	寶山鄉	寶山國中
	芎林鄉	芎林國中
	橫山鄉	橫山國中
	橫山鄉	華山國中
	五峰鄉	五峰國中

 **Miaoli (U:5, R:3)**

	Administration districts	School
Urban area	公館鄉	鶴岡國中
	後龍鎮	新港國中小
	通霄鎮	福興武術國中小
	通霄鎮	南和國中
	竹南鎮	照南國中
Rural area	三灣鄉	三灣國中
	獅潭鄉	獅潭國中
	造橋鄉	造橋國中

 **Taichung (U:37, R:1)**

	Administration districts	School
Urban area	東區	育英國中
	南區	崇倫國中
	南區	四育國中
	西區	向上國中
	北區	立人國中
	北屯區	三光國中
	北屯區	大德國中
	北屯區	崇德國中
	西屯區	漢口國中
	南屯區	大業國中
	南屯區	萬和國中
	南屯區	大墩國中
	豐原區	豐原國中
	豐原區	豐南國中
	神岡區	神岡國中

	大雅區	大華國中
	大雅區	大雅國中
	潭子區	潭子國中
	外埔區	外埔國中
	清水區	清水國中
	梧棲區	梧棲國中
	大甲區	日南國中
	大甲區	大甲國中
	沙鹿區	鹿寮國中
	沙鹿區	公明國中
	龍井區	四箴國中
	烏日區	烏日國中
	烏日區	溪南國中
	烏日區	光德國中
	大里區	成功國中
	大里區	立新國中
	大里區	光正國中
	太平區	太平國中
	太平區	新光國中
	太平區	中平國中
	東勢區	東勢國中
	東勢區	東新國中
Rural area	大安區	大安國中

 **Changhua (U:23, R:3)**

	Administration districts	School
Urban area	福興鄉	福興國中
	彰化市	陽明國中
	彰化市	彰安國中
	彰化市	彰德國中
	彰化市	彰興國中
	彰化市	彰泰國中
	彰化市	信義國中小
	溪湖鎮	溪湖國中
	溪州鄉	溪州國中
	鹿港鎮	鹿鳴國中
	埔心鄉	埔心國中
	員林市	員林國中
	芳苑鄉	草湖國中

	芬園鄉	芬園國中
	社頭鄉	社頭國中
	和美鎮	和群國中
	秀水鄉	秀水國中
	伸港鄉	伸港國中
	田尾鄉	田尾國中
	永靖鄉	永靖國中
	北斗鎮	北斗國中
	大村鄉	大村國中
	二林鎮	萬興國中
Rural area	線西鄉	線西國中
	大城鄉	大城國中
	二水鄉	二水國中

 **Nantou (U:8, R:8)**

	Administration districts	School
Urban area	草屯鎮	草屯國中
	埔里鎮	埔里國中
	埔里鎮	大成國中
	南投市	南投國中
	南投市	南崗國中
	南投市	營北國中
	竹山鎮	延和國中
	名間鄉	名間國中
Rural area	鹿谷鄉	瑞峰國中
	魚池鄉	魚池國中
	魚池鄉	明潭國中
	國姓鄉	北山國中
	信義鄉	信義國中
	仁愛鄉	仁愛國中
	中寮鄉	爽文國中
	集集鎮	集集國中

 **Chiayi (U:17, R:6)**

	Administration districts	School
Urban area	東區	大業國中
	東區	蘭潭國中
	朴子市	東石國中

	布袋鎮	布袋國中
	東石鄉	過溝國中
	東石鄉	東榮國中
	大林鎮	大林國中
	新港鄉	新港國中
	民雄鄉	民雄國中
	民雄鄉	大吉國中
	六腳鄉	六嘉國中
	太保市	太保國中
	太保市	嘉新國中
	水上鄉	水上國中
	水上鄉	忠和國中
	中埔鄉	中埔國中
	竹崎鄉	昇平國中
Rural area	溪口鄉	溪口國中
	鹿草鄉	鹿草國中
	義竹鄉	義竹國中
	番路鄉	民和國中
	梅山鄉	梅山國中
	阿里山鄉	阿里山國中小

 **Kaohsiung (U:49, R:6)**

	Administration districts	School
Urban area	鹽埕區	鹽埕國中
	鼓山區	七賢國中
	鼓山區	壽山國中
	左營區	文府國中
	左營區	龍華國中
	左營區	大義國中
	左營區	左營國中
	楠梓區	翠屏國中小
	三民區	鼎金國中
	三民區	正興國中
	三民區	陽明國中
	三民區	三民國中
	前金區	前金國中
	苓雅區	大仁國中
	苓雅區	五福國中
	苓雅區	苓雅國中

	前鎮區	前鎮國中
	前鎮區	瑞豐國中
	前鎮區	光華國中
	前鎮區	興仁國中
	旗津區	旗津國中
	小港區	中山國中
	小港區	明義國中
	小港區	小港國中
	小港區	鳳林國中
	鳳山區	中崙國中
	鳳山區	鳳西國中
	鳳山區	忠孝國中
	林園區	中芸國中
	大寮區	中庄國中
	大寮區	大寮國中
	大樹區	溪埔國中
	大樹區	大樹國中
	仁武區	大灣國中
	大社區	大社國中
	烏松區	烏松國中
	岡山區	嘉興國中
	岡山區	岡山國中
	岡山區	前峰國中
	橋頭區	橋頭國中
	燕巢區	燕巢國中
	路竹區	一甲國中
	湖內區	湖內國中
	茄萣區	茄萣國中
	梓官區	蚵寮國中
	梓官區	梓官國中
	旗山區	旗山國中
	旗山區	圓富國中
	美濃區	美濃國中
Rural area	田寮區	田寮國中
	彌陀區	彌陀國中
	杉林區	杉林國中
	內門區	內門國中
	甲仙區	甲仙國中
	茂林區	茂林國中
	桃源區	桃源國中

🚦 Hualien (U:8, R:4)

	Administration districts	School
Urban area	花蓮市	美崙國中
	花蓮市	花崗國中
	花蓮市	國風國中
	吉安鄉	化仁國中
	吉安鄉	宜昌國中
	新城鄉	秀林國中
	新城鄉	新城國中
	玉里鎮	三民國中
Rural area	鳳林鄉	鳳林國中
	鳳林鄉	萬榮國中
	光復鄉	光復國中
	瑞穗鄉	瑞穗國中

🚦 Taitung (U:1, R:2)

	Administration districts	School
Urban area	臺東市	東海國中
Rural area	太麻里鄉	大王國中
	太麻里鄉	賓茂國中

🚦 Penghu city (U:4, R:8)

	Administration districts	School
Urban area	馬公市	馬公國中
	馬公市	文光國中
	馬公市	中正國中
	馬公市	澎南國中
Rural area	白沙鄉	白沙國中
	白沙鄉	鎮海國中
	白沙鄉	島嶼國中
	西嶼鄉	西嶼國中
	湖西鄉	湖西國中
	湖西鄉	志清國中
	望安鄉	望安國中
七美鄉	七美國中	