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Construction and Innovation Practice of "Internet +" Professional Development Mechanism for Urban and Rural Teachers

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Abstract: In the era of "Internet + education", Guangxi is confronted with significant regional imbalance in the construction of network interactive resource platform and the construction of regional and rural teacher professional development support service system. The pilot project of "Internet + Double-teacher Teaching", taking such imbalance into consideration, and making an analysis of the current problems faced by its urban and rural teachers' professional development, explores to set up a corresponding mechanism and an interactive resources platform. At the same time, it also tries to build a self-organizing operation mode between the local radiation pattern and urban and rural teachers' professional development community, and build a learning community carried forward by the special-class teacher workshops, so as to resolve such prominent problems like the common endogenous development, broaden the urban and rural teachers' professional development path, and ensure a coordinated development of urban and rural teachers' professional benefited by a local resources radiation mechanism. At present, the operation mode of this project has been promoted in 14 cities in this region.

Keywords: "Internet +", urban and rural teachers, double-teacher teaching, teacher professional development

1. Introduction

The construction of interactive resource platform is designed based on Jean Maisonneuve's group dynamics principle (Meisonoff, 1997), which believes that a cohesion force formed by elements within a group structure will promote the development and change of the group. In the guidance of group dynamics theory, we try to build an interactive resources platform, and set up a "face to face" communication group based on internet technology for both the urban and rural teachers to foster their common development elements so that a cohesion force is formed. A resource platform jointly built by urban and rural teachers will promote the development of the interactive innovation resources platform, the spread of high quality resources and information between groups (Fig. 1).

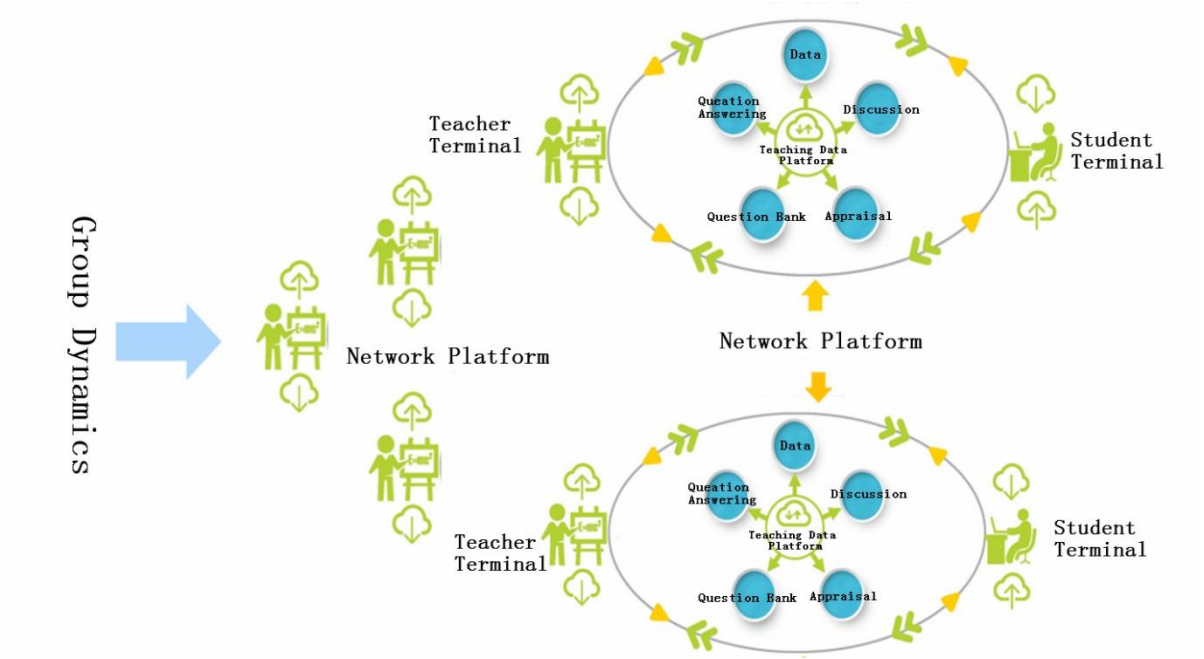

Figure 1: Schematic Diagram of Interactive Resource Platform

2. Data analysis

The "core advantage" of creating Guangxi interactive resource platform lies in connecting the relationship between experts and teachers, teachers and students, platform construction and resource generation, and the online and offline communication, and discussion between experts and teachers. Teaching management platform is a bridge connecting teachers and students, realizing resource dissemination, discussion and Q & A interaction, real-time monitoring and evaluation of tests (Gu, 2013). The platform resources not only include demonstration classes of experts and teachers, but also enable online discussions and expert comments; that is to say, a database of multiple subjects and multi-dimensional fields is formed to meet the diverse needs for its users (Song, 2014). For example, the mobile APP interactive resource platforms in Wuzhou and Cenxi of Guangxi, relying on the local powerful resources in their teachers' schools, and other schools, extensively covers the regional resources to ensure effective group communication.

The interactive resources platform in Guangxi is designed to solve the problems in practice to efficiently use the high quality resources, bridge the gap between urban and rural education, and improve the respective teachers teaching self-efficacy (Yang & Yang, 2013). Meanwhile, the improvement of the urban and rural teaching information and technology may help to higher their teachers training frequency and promote training quality (Wu, 2015), so that the urban and rural teachers are highly motivated to ease their job burnout, optimize their professional development path, richer rural teachers structure, and finally realize the teachers' balanced development between urban and rural areas in Guangxi by a promotion of the rural teachers comprehensive quality.

In constructing the mode of local resources' local radiation, we have experienced three times of mode innovation, each of which is an in-depth exploration of the problems found in the operation to form a unique mode of local resources' local radiation in Guangxi. When constructing the local radiation mode of local resources, we initially adopted the linear radiation mode of "university-city-experimental school"(Fig. 2). This model relies on the resources of colleges and universities, which radiate to prefecture-level cities that act as the medium to organize teachers of various experimental schools to study and train in colleges and universities, so as to improve the teaching level of various experimental schools (Xu, 2017). The biggest advantage of this model is its high efficiency and low cost. It gives full play to the local resource and is a favorable means for the common growth and progress of colleges and local experimental schools. But the disadvantage is that

the flow of resources is limited and unitary, and high-quality resources cannot effectively cover the rural area.

In view of the shortcomings of the first model, we make a second innovation: on the basis of the original three-level linear radiation, we add county-level excellent schools to lead rural experimental schools, forming a model of coordinated development of urban and rural teachers: "university-city-county-school", a four-level linkage model (Fig. 3). The hierarchy in this model is relatively clear, with city and county schools, experiment schools as three main motivations for the double-teacher teaching project, colleges and universities as resources for a collaborative development of city, county and school. The resources of colleges and universities are used to help county level schools to improve teaching quality, which will in turn help rural schools. Therefore, a good resource of conveyor belt is formed, so that teaching quality is improved ultimately.

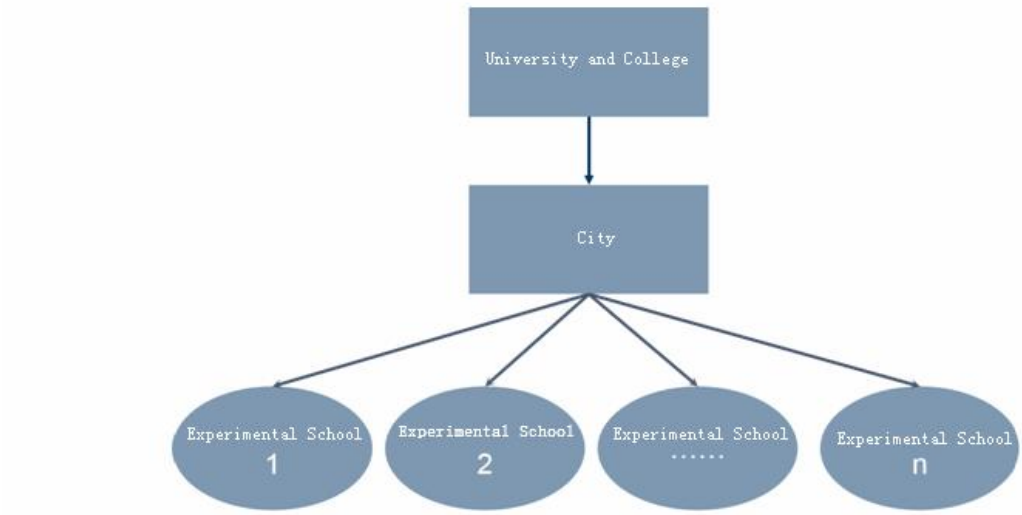

Figure 2: Collaborative Model 1: linear model of "university-city-experimental school"

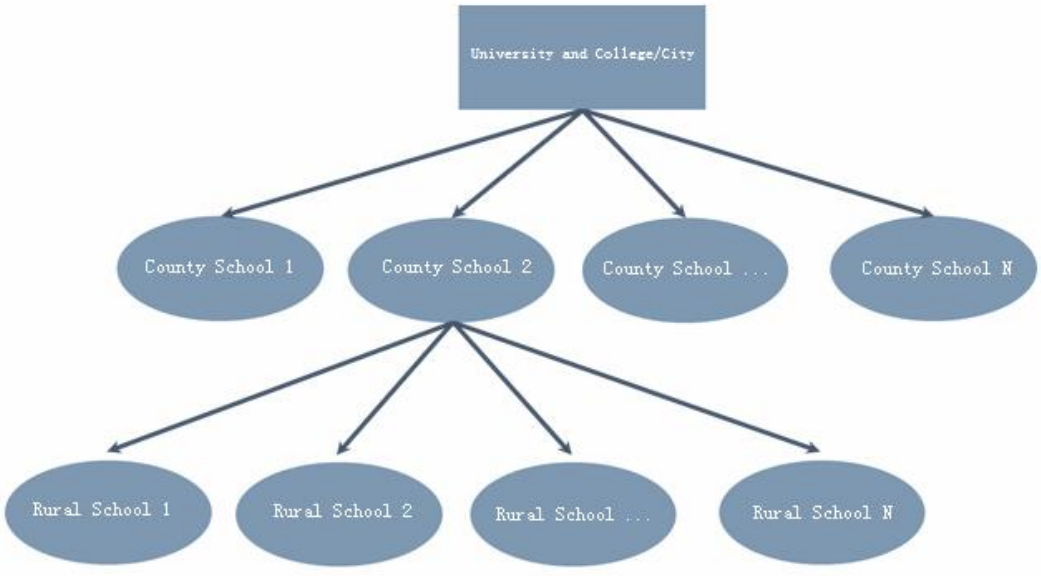

Figure 3: Collaborative Mode 2: "university-city-county-school" four-level linkage mode

Though Collaborative Model 2 enjoys a wide coverage and each party concerned is entitled with clear responsibility, still, under it, resources cannot be allocated and utilized fully. Therefore, Collaorative Model 3, a multi-level radiation mode of "college-city-county-central school-rural school/teaching site" comes into being (Fig. 4). The model, featuring itself with the advantages of the previous two models, not only gives full play to the intellectual resources in colleges and universities,

but cozies up to the resources of cities and counties and central school to form a complex resources flowing network, thus solving the problem of single resources flowing path (Zhang, 2017). In this mode, the schools have a variety of accesses to high quality information, not restricted by colleges or schools at the county level, but all parties concerned, and counterparts, or superior or subordinate, can communicate and learn from each other. It can be said that, Collaborative Mode 3 gives full play to local teaching resources. Forming a broader professional development community for teachers, this model can meet the diverse needs of urban and rural schools, teachers and students in terms of resource generation fields, types and amount. At the same time, under this mode, teachers can communicate face-to-face with experts and excellent teachers. As a result, they are more motivated and soberer in their professional development, stimulating their sense of teaching efficacy. Teachers, having more paths for professional development, knowing better their own appropriate paths, can improve themselves in an all-round manner.

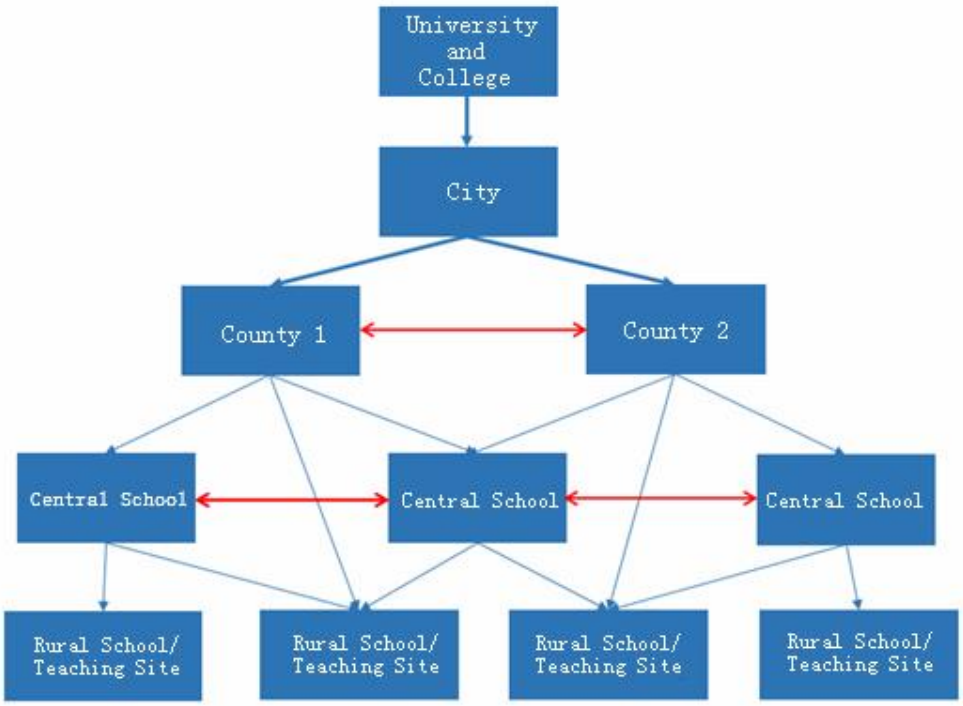

Figure 4: Colleborative Mode 3: "college - city - county - central school - rural school/teaching site": multi-level radiation mode

3. Discussion

Since its launching in 2010, the special-class teacher workshop project in Guangxi has been setting up over 200 special-class teacher workshops, covering one-third of special-class teacher in this region. In this project, a high-end research team has been gradually formed, with experts from Guangxi Normal University as its guide, the special-class teachers as the initiators, the backbone teachers as the main participants. This team, having the special-class teachers play leading role in its radiation, forms a benign teachers interactive mechanism, and motivates teachers to cooperate with each other, thus promoting the common development of teachers in different levels in the region.

The "Internet + Double-teacher Teaching" project, based on the "Guangxi Special-grade Teacher Workshop", builds a network platform to realize open and diversified interaction and radiation by establishing its teaching reform theme by means of factor analysis and role definition, and task division among instructors, hosts, helpers and participants.

The construction of the community quickly activates the development momentum of special-level teachers and their work enthusiasm of "spreading, helping and guiding", reshapes the teaching reform mechanism with teachers' subjectivity as the mainstream, and sets off a wave of teaching reform in the disciplines in question of the school. In the meantime, the community structure, function and reform is reflected by means of dynamic tracking and process evaluation in view of the

practice process and effect of the “Internet + Double-teacher Teaching” backbone teacher workshop. At the same time, hybrid research and studies of the urban and rural teacher should be promoted; workshop owners and research teams should be encouraged to work in the rural schools, and organize more face to face offline communications; support to the poverty-stricken areas, rural areas and minority areas should be strengthened, and hence the whole structure of urban and rural teachers is optimized and regional education development is balanced.

4. Conclusion

First of all, topic researches with local characteristics are vigorously supported by teachers' professional development institutions such as the city bureau of education and teacher training centers. Teachers are required to pair up to understand and study their jobs and disciplines to foster great enthusiasm to their own field. It is universally acknowledged that a topic research is to discover and then cultivate one’s interests, and make it guide one’s lifelong learning; at the same time, it is also an effective path for teachers to develop their professional, and improve their innovation practice capacity. The teachers should work in a down-to-earth manner to make up for their capacity for innovation.

Secondly, teaching competitions based on the “Internet+ Double-teacher Teaching” model are carried out, whose results are included into the measurement of teaching achievements, thus arousing teachers to take the initiative to reform teaching methods, and promote high-quality teaching. Meanwhile, the winning works of the teaching competition are a kind of teaching achievements, which will be transformed into rich resources for training teachers and teaching preparation resources, forming a local radiation resource pool of local resources and greatly enhancing the richness and relevance of regional teaching resources.

Finally, abundant independent training has initially realized the sustainable collaborative and innovative development of urban and rural teachers' specialty. Schools organize training, and invite other famed or experienced teachers to give online or offline classes according to their own needs. Targeted suggestions are put forward in line with the local resources and cases, bottlenecks of teachers’ professional development diagnosed and development needs met. As a result, the urban and rural teachers' professional quality has been effectively improved.

References

Gu, Y. (2013). *Research on the Construction of Teacher Professional community---- on the Model of Special Class Teacher Workshop (in Chinese).* Guilin: Guangxi Normal University.

Meisonoff, J. (1997).Yin Shicai, Sun Zhaotong trans. *Group Dynamics.* Beijing: Commercial Press, 1997:16.

Song, X. M . (2014). A Class with the High School Affiliated to Renmin University of China --Research on the “MOOC1+1” or “Double-Teacher Teaching” Project (in Chinese). *Guangming Daily, 2014-6-17 (15 edition).*

Wu, K. N. (2015). Teachers Should Be Masters of Their Own Professional Development (in Chinese). *Journal of Nanjing Normal University (Social Science Edition), 5, 80-86.*

Xu, W. W. (2017). Innovation Engine: Non-profit Organization in Education Fair Governance--Taking “double-teacher teaching” Public Welfare Project as an Example (in Chinese). *Modern Management Science,1,118-120.*

Yang, Z., & Yang, R. Y. (2013). Self-organization: an Important Mechanism of Teacher Professional Development (in Chinese). *Education Research, 10, 95-102.*

Zhang, Q. W. (2017). Double-teacher Teaching Based on “Internet +” in Rural Teacher Training (in Chinese). *Journal of Primary and Secondary School Teachers Training, 5, 20-24.*