Educational Reform Practice of the Course "Urban Comprehensive Plan" in Context of Three Policies

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Abstract. Policies of *Sponge City*, *Multi Planning Integration*, and *Ecological Restoration and City Mend*, have raised new educational requirements to the course "*Urban Comprehensive Plan*". As such, a group of Guilin University of Technology have initiated educational reform practice consisting of: 1) prioritizing key tasks of *Urban Comprehensive Plan* based on the interpretation of these three policies aforementioned; 2) incorporating up-to-date policy-related bullet points into the course and identifying key and difficult points in teaching after carefully examining the ongoing *Course Syllabus* designed solely to meet the *Professional Norms*; 3) exploring the *Educational Reform Implementation* based on the case of the Class of 2013-2, including case selection, in-class teaching and after-class training and practice as well as in-class interactive processes reviewing the presentations of both individual work modules and final planning schemes; and 4) inviting six groups to rate the overall educational performance of the course with all groups rating "Excellence". This productive practice could prepare graduates for their upcoming *Urban Comprehensive Plan Formulation* work under such multi-policy frameworks and inform a good practice for other reform efforts regarding this course.

Introduction

In China, when it is now in new urbanization process, there are multiple problems, such as coexistence of water shortage in cities and "City Sea", "coexistence of multiple plans" and concentrated outbreak of "city disease", that inconsistencies in these parts as well as the economic and social development goal becomes even more serious by the day. As such, some policies, such as sponge city(*SC*), multi planning integration(*MPI*), and ecological restoration and city mend (*ER & CM*), and so on, are successively introduced to response these problems. They are closely related to *Urban Comprehensive Plan* (*UCP*), and are new issues for the teaching of the course *UCP* in an undergraduate program of urban-rural planning. But the course *UCP* is a core undergraduate course for urban-rural planning. Therefore, in such a case, it's urgent to conduct teaching reform.

Scholars at home and abroad conducted relatively deep research on *SC*, *MPI*, and *ER & CM*. In China, university teachers also made many practical attempts in teaching process of the course *UCP*. However, there's few literatures about the content of policies which can be taken as teaching content of the course *UCP*, or studies about teaching methods and teaching effect evaluation etc., and no literature about their systematic study has been found.

This article is divided into 4 parts. **Firstly**, on the basis of interpreting the spirit of both central leadership's speeches and central government's meetings (*SCLS & SCGM*), and interpreting the issued document and technical specification which carry out *SCLS & SCGM*, some key tasks of *Urban Comprehensive Plan Formulation* (*UCPF*) are put forward under the context of these policies. **Secondly**, through comparing the ongoing course *UCP* syllabus with key tasks, we put forward some knowledge points, including to be familiar and grasp teaching requirements, and key points and difficulties requirements, which need to be merged in the course *UCP* under the basement of these Policies. The ongoing course *UCP* syllabus for undergraduate program of

urban-rural planning in the Guilin University of Technology(**GUT**), was compiled by referring to *Higher Education Urban-Rural Planning Undergraduate Guiding Professional Norms (2013)*(**HE-URP-UG-PN-2013**). **Thirdly**, it takes class 2013-2 as an example, to conduct studies on teaching method and means by case selection, in-class teaching and after-class training, and practice as well as in-class interactive evaluation of the presentations of individual work modules and final planning schemes. In the end, it takes this class as an example, to analyze the teaching effect evaluation from 6 groups.

Policy Interpretation and Key Tasks of *UCPF*

Jin-ping Xi (2013) emphasized on "constructing a naturally deposited, permeated and purified '*Sponge City*'"[1]. The *Central Economic Working Conference* (2014) proposed "to accelerate reform of planning system, improve spatial planning system, and actively promote '*Multi Planning Integration*' in cities and counties"[2]. *Jin-ping Xi* also made a clear request on "*Ecological Restoration and City Mend*"[3]. To implement Jin-ping Xi's keynotes and related meeting spirit, *General Office of the State Council, Ministry of Housing* and *Urban-Rural Development* (**MOHURD**) and *National Development and Reform Commission* etc. issued a series of documents or technical specifications.

Technical Guide for Sponge City Construction (**MOHURD**, 2014) specified the content, requirements, and methods that affect storm-water system during the process of *Urban Planning*, *Engineering Design*, *Construction*, *Maintenance and Management*, and it also provides some practical cases in China. *Guidance on Improving Sponge City Construction* (*General Office of the State Council*, 2015) pointed out that we should construct *SC*, play overall the functions of both natural ecological and human intervention, control effectively rainfall runoff, and achieve the urban development model of nature deposit, permeation, and purification. These will facilitate restoration of urban water ecology, conserve water resource, strengthen water logging prevention capability of cities, expand effective investment of public products, improve new urbanization quality and promote harmonious development of both human beings and nature.

National New Urbanization Plan (2014-2020) (National Development and Reform Commission, 2014) put forward to strengthen the connection between urban plans and other plans which include economic & social development, construction of the functional zoning, land and resources utilization, ecological environment protection, and infrastructure construction, and promote *MPI* including economic and social development planning, city planning, land use planning etc. in conditional areas. *Notice for Pilot Work of "Multi planning integration" in Cities and Counties* (National Development and Reform Commission, Ministry of Land and Resources, Ministry of Ecology and the Environment and Ministry of Housing and Urban-Rural Development, 2014) pointed out that *MPI* was an important task in 2014 overall deepening reform of the *Central Government*. We shall study duplicable and scalable pilot planning, to form one plan and one blueprint for each city and county. The spatial planning system in city and country is to be explored and improved to establish related mechanism of cohesion and coordination for planning.

Opinions on Further strengthening Urban Planning Construction and Management by the State Council (2016) put forward to restore urban natural ecology, formulate and implement ecological restoration planning, restore damaged mountains, rivers, wetlands and vegetation with plan and in stages, promote actively restoration and reuse of mining wasteland, improve contaminated lands, and restore natural ecology. It also proposed to orderly implement *CM* and organic update, solve problems of old districts such as declined environmental quality, chaotic spatial order and damaged historic and cultural heritage etc., and facilitate architecture, street façade, skyline, color, and environment to be more coordinated and graceful. *Guidance on Strengthening Ecological Restoration and City Mend* (Ministry of Housing and Urban-Rural Development, 2017) put forward 18 opinions about *ER & CM*.

After carefully interpreting policies above, and at the same time making comparisons with the work content of *UCP*, we proposed the key tasks of *SC* and *MPL* and *ER & CM* in period of *UCPF*.

For example, the key tasks of *SC* include 7 aspects like approaches for multi-layer drainage protection and improvement. Kindly refer to key tasks and knowledge points in table 1.

Table 1. Key tasks of *UCPF* in the Context of the policies of *SC* and *MPI* and *ER & CM*, and bullet points which need to merging into the Course Syllabus of the course *UCP*

Course Syllabus (Teaching Content)		
1 Field Investigation (practice course) 2 Scheme formulation of Urban System Planning in Counties (Cities) (*USP-CC*) 2.1 Formulation of *USP-CC* Status drawing and central urban areas (*CUA*) status drawing	2.2 Regional urban-rural development, planning objectives, and spatial arrangement (*RURD*, *PL*, *SA*) 2.3 Formulation of *USP-CC* drawing 3 Scheme formulation of *CUA* 3.1 Land-use development direction and general plotting(*LUDD-GP*) 3.2 First draft drawing formulation of road traffic system planning (*RTSP*) 3.3 First draft drawing formulation of land use planning (*LUP*)	3.4 Second draft drawing formulation of *RTSP* and *LUP* 3.5 Scheme formulation of Specialized planning (*SP*) 3.6 Scheme formulation of phased construction planning (*PCP*) 4 Plan implementation, compilation of text and instruction book 5 Full set of result reporting and scheme optimization
SC (key tasks and knowledge points)	*MPI* (key tasks and knowledge points)	*ER & CM* (key tasks and knowledge points)
1) To grasp multi-layered protection and drainage improvement method (newly added drainage planning drawing of *CUA*). 2) To be familiar with methods to scientifically delimit water ecology sensitive area. (blending in spatial regulation planning drawing of *CUA*). 3) To be familiar with approaches to comprehensively construct control-objective (blending in *LUDD-GP* of *CUA*). 4) To be familiar with approaches of areas partition of *SC* (blending in *LUDD-GP* of *CUA*). 5) To grasp drainage planning of urban areas: pay attention to water recycling and water system integration (blending in drainage planning drawing of *CUA*). 6) To grasp systematic planning of green belt: pay attention to rain consumption and ecological purification (blending in planning drawing of green-land system of *CUA*). 7) To be familiar with *RTSP*: focus on pollutant emissions control (blending in *RTSP* drawing of *CUA*).	1) To be familiar with approaches to establish a unified spatial information database, get clear of a series of objectives and index including unified population and economy etc. (blending in (*RURD*, *PL*, *SA*). 2) To grasp partition method for spatial growth boundary of urban areas, perpetual basic farmland protection boundary, ecological protection red line and industrial park boundary, and form a unified special pattern (integrating with (*RURD*, *PL*, *SA*). 3) To be familiar with approaches to optimize classification structure of land. Dominated by urban-rural lands classification coverage, to practice unified land use functions (integrating with (*RURD*, *PL*, *SA*). 4) To grasp which we overall analyze *SP* requirements such as transportation, municipal admin, and hydraulic engineering etc., and grasp approaches to reserve gallery, the overall arrangement of various kinds of pipeline facilities, on the basis of multiple plans (integrating with planning drawing of comprehensive pipeline of *CUA*). 5) To grasp approaches to optimize 4 districts partitioning with "multiple plans", and define unified spatial regulation standard and classification system (blending in (*RURD*, *PL*, *SA*). 6) To grasp approaches to definite recent construction projects, and to formulate a unified construct-time platform (integrating with Scheme formulation of *PCP*).	1) To conduct investigation and evaluation of *ER & CM* (combining with field investigation). 2) To grasp *SP* of *ER & CM* (integrating with planning drawing of *ER* and environmental protection in *CUA*, and planning drawing. *of CM* in *CUA*. 3) To be familiar with approaches to formulate the implementation plan for *ER & CM* (blending in *LUDD-GP* of *CUA*). 4) To be familiar with approaches to mountain restoration (integrating with *LUDD-GP* of *CUA*). 5) To be familiar with approaches to water governance and restoration (blending in planning drawing of ecological and environmental protection in country (city)). 6) To be familiar with approaches to restoration and recovery of abandoned lands (integrating with *LUDD-GP* of *CUA*). 7) To grasp methods to perfect Greenland system (blending in planning drawing of green-land system of *CUA*). 8) To grasp approaches to make up for outstanding accounts of infrastructure (integrating with *LUDD-GP* of *CUA*). 9) To grasp ways to improve travel conditions (integrating with *RTSP* drawing of *CUA*).
Synthesis (knowledge points are integrated into Course Syllabus)		
1) To integrate with 1 field investigation, and conduct investigation and evaluation of *ER & CM*. 2) To blend in 2.2 *RURD*, *PL*, *SA*.	(6) To be familiar with approaches to formulate the implementation plan for *ER & CM*. (7) To be familiar with approaches to mountain	

(1) To be familiar with approaches to establish a unified spatial information database, get clear of a series of objectives and index including unified population and economy etc..

(2) To grasp partition method for spatial growth boundary of urban areas, perpetual basic farmland protection boundary, ecological protection red line and industrial park boundary, and form a unified special pattern.

(3) To be familiar with approaches to optimize classification structure of land. Dominated by urban-rural lands classification coverage, to practice unified land use functions.

(4) To grasp approaches to optimize 4 districts partitioning with "multiple plans", and define unified spatial regulation standard and classification system

3) To integrate with 2.3 planning drawing of ecological and environmental protection in county (city), and be familiar with approaches for water treatment and restoration.

4) To blend in 3.1 *LUDD-GP* of *CUA*.

(1) To be familiar with means to comprehensively construct control-objectives.

(2) To be familiar with approaches of areas partition of *SC*.

(3) To be familiar with approaches to restoration and recovery of abandoned lands.

(4) To grasp approaches to make up for outstanding accounts of infrastructure.

(5) To grasp approaches to definite recent construction projects, and to formulate a unified construct-time platform.

restoration.

5) To integrate into 3.4 Second draft drawing formulation of *RTSP* and *LUP*.

(1) To be familiar with *RTSP*: focus on pollutant emissions control.

(2) To grasp ways to improve travel conditions.

6) To blend into 3.5 Scheme formulation of *SP* in *CUA*.

(1) Planning drawing of space control: to be familiar with means to scientifically partition water ecology sensitive area.

(2) Planning drawing of comprehensive pipeline: To grasp which we overall analyze *SP* requirements such as transportation, municipal admin, and hydraulic engineering etc., and grasp approaches to reserve gallery, the overall arrangement of various kinds of pipeline facilities, on the basis of multiple plans.

(3) Planning drawing of Green-land system: to grasp green land system planning, and pay attention to rainwater consumption and ecological purification.

(4) Newly added drainage planning drawing: to grasp multi-layer protection and drainage improvement, to be familiar with urban drainage planning, and pay attention to water ecological cycle and water system integration.

(5) Newly added planning drawing of ecological restoration and environmental protection, and planning drawing of cities and towns restoration: to grasp formulation method.

7) To blend into 3.6 Scheme formulation of *PCP*, and be familiar with means to define construction projects in various stages.

8) To integrate into 4 plan implementation, compilation of text and instruction book.

Data source: self-drawing.

Knowledge Points of Integrating 3 Policies into the Course *UCP*

HE-URP-UG-PN-2013 regulate that the main content of the Course *UCP* shall include role and characteristics of *UCP*, study on urban development strategic, the status investigation content and method of *UCP*, and content and approach of *UCPF*, and so on. The Course *UCP* in *GUT* includes 3 courses which are *Principles of Urban Comprehensive Plan* (*PUCP*), *Course Design of Urban Comprehensive Plan* (*CDUCP*), and *Practice of Urban Comprehensive Plan* (*PUCP*). After studying *HE-URP-UG-PN-2013* and syllabus in other universities, we combine the characteristics of urban-rural planning in our university to formulate corresponding syllabus. In actual teaching practice, *CDUCP* and *PUCP* conduct alternatively. Please refer to 5 chapters for the teaching content (*Course Syllabus* in table 1).

According to the key tasks of *UCPF* under the policies aforementioned, and combining with about 20 years' teaching experiences of the course *UCP*, and project experiences of more than 40 *UCP*, above 20 land use planning, multiple functional zones planning, etc., this article puts forward knowledge points in 2 levels "master" and "familiar" (key tasks and knowledge points are in table 1). The 2 levels are determined by the role of knowledge point in the course *UCP* and project practice of *UCPF*. For example, spatial growth boundary is a control boundary to regulate development size of the town and prevent from development around a core. The approach to determine the levels shall be acquired. Then this article combines knowledge points of these policies and blends them into various chapters. Knowledge points to be grasped are key and difficult points in teaching (Table 1 Synthesis).

Teaching Methods and Means

Case Selection

Cases of the course *UCP*. Cases are better to be those of representative towns with 50,000 to 200,000 populations now. Since generally there's too much population in cities, in-class teaching and guidance are hard to be deepened, and students are overburdened after class, so it's hard to complete teaching task effectively; while in Guangxi, towns are too small. "Knowledge points in policies" are too simple in cases. But the county is a good choice, for it combines with characteristics of both cities and towns, "knowledge point in policies" in cases are within the appropriate degrees of difficulties, and students' after-class training is adequate. Thus the country is chosen to be a preferred case of *UCP*.

Quanzhou-County town, located Guilin, Guangxi, have bullet trains, expressways, and rivers. It now bears a population amount of 180,000. It's a relatively ideal case. Quanzhou-County town was taken as a case of the course *UCP* for class 2013-2, students got *Course Assignment Design Task* before the class. And the same case ran in the whole teaching process.

In-class Teaching and After-class Training

"Craftsman" cultivation mode. "Craftsman refers to the person who focuses on one field, devotes himself to product research and development or work pieces process in that field to finish each link excellently and meticulously"[4]. Since ancient times, the mode of master teaching apprentice is used to cultivate numerous famous "planners". For example, Ming-xiang Kuai, an outstanding craftsman in Ming dynasty designed and constructed the Imperial Palace [5]. *UCP* including "knowledge points under policies" is with strong operability, which requires for teaching step by step like master teaching apprentice. Only by doing like this can students lay a solid theoretical and skill foundation. For example, highway route selection, line type and *MPL* spatial growth boundary etc. have many solutions. They requests teachers to guide repeatedly and students to practice repeatedly to meet the requirement.

Small-sized class, group cooperation and coordination, individual Q&A, and commonalities summary. To meet the requirement of "craftsman", the course *UCP* in *GUT* teaches in small-sized class (12 to 15 people in a class), and 4 to 5 students are in one group to complete the full set of the result in the case. There're totally 36 students in class 2013-2, which are divided into 3 small classes with 3 teachers. Except for different on-the-spot performance, others such as teaching content, cases, teaching methods and means etc. are totally the same. Each class is further divided into 3 groups, and each group has postgraduate students with actual *UCP* project experience to assist. After the teacher guides knowledge points (Formulation points), each group member will coordinate to practice. In-class teaching, the mode of master guiding apprentice is used to guide students to compile drawings and scheme. And actual examples and Q&A are adopted to conduct teaching. If any student has questions, the teacher will enlighten him/her individually. Common problems will be summarized in each class.

Onsite and online guidance after class. A "craftsman" is cultivated in the actual project, so students need a large amount of practice after class to complete phased and a full set of the result of cases. In actual practice, they will meet lots of problems. Teachers or postgraduates shall guide them onsite or online to timely solve problems.

Practice

Meticulous preparation. Before field investigation, teachers issue *Outline and Instruction for Field Status Investigation*. Teachers shall interpret the research key points and means, such as to emphasize on investigating lands, various engineering facilities and pipelines, and documents, drawings and forms and table data collected by departments, and so on. Onsite shooting and photographing shall be conducted well. The onsite research method under the guidance of knowledge points in 3 policies shall be stressed.

Postgraduate student onsite guidance, teachers' instruction, and timely summary. Postgraduate

students with practical ***UCP*** project experience lead teams (at least 1 postgraduate in each team) to research and investigate in selected cities/towns. Teachers provide onsite instruction to each team, check their field investigation status daily, and timely find, summarize and solve problems.

All teams collect data and prepare investigation report after field investigation.

In-class Interactive Processes Reviewing the Presentations of Both Individual Work Modules and Final Planning Schemes

Reviewing the presentations of individual work modules. The course ***UCP*** can be both independent and closely related to each other, and the former parts make up for the foundations of the latter parts. This article holds that it's proper to divide into 4 modules including field investigation report, regional urban-rural development, planning target and spatial arrangement, county (city) urban system layout drawing formulation, land use planning and road traffic planning schematic drawing of ***CUA***. Too many modules will make knowledge points fragmented not closely related. And it will cost too much time in PPT reporting. But too little module will make very loose connection between modules. Former parts are not digested with PPT reporting, and then it's hard to conduct teaching of the latter part. For module result in each stage, it must include PPT presentation, student judgment, and teaching comments & Strengthen the knowledge points under 3 policies to find out and make up for deficiencies before going to the next module.

To report and review the full set of results by panel of judges simulation. There's a simulated expert board to review the result to optimize the plan, learn social needs, strengthen students confidence, arouse students enthusiasm and cultivate their reporting abilities. Teachers from ***Teaching Office of Urban Planning*** (***TOUP***), teachers of architecture (***TA***), senior urban planners from planning and designing institutes(***PDI***) outside school and planning management departments (***PMD***), are invited to review and comment on site to find deficiencies and improve them. Then a set of A3 result is submitted for performance review and 2 to 3 A1 results are displayed for exhibition.

This mode is called "4+1 result" reporting and review.

PPT presentation and reporting of results in four modules of the course ***UCP*** in ***GUT*** are conducted by taking the small class as an organization. Each group members shall go on the stage in turn to report their result. The full set of result shall be reported with the large class as an organization. One student shall be selected in each group to report results of the group.

To Rate the Overall Educational Performance

To guarantee the objectiveness of effect evaluation, 6 groups including teachers from ***TOUP*** and ***TA***, senior urban planners from ***PDI*** outside the school, all students in class 2013-2, and postgraduate students from undergraduate program of urban-rural planning in different universities, are invited to witness the speech and reporting of the full set of the result on site. Except that all students in class 2013-2 conduct school level online judgment, other groups conduct onsite assessment. Assessment results in all aspects are excellent (Table 2).

Table 2. Teaching effect evaluation list

Assessor and numbers	Comment	Rate
One supervisor from University-level, another supervisor from School-level.	Active classroom atmosphere, high learning initiative from students, good interaction between teachers and students, solid professional knowledge, theory and practical skill of students, and sound practical ability. Comparing with classes in previous years or in the same year, they do a good job in aspects above.	2）All excellent
One teacher of Professional Basic Course, one of Professional Course, one of Zoning Course- Design, one	1) To combine 3 policies into the course ***UCP'*** teaching is an urgent need in the context of new urbanization. 2) Knowledge points, key and difficult points in teaching are designed reasonably. Cases are selected properly. The schema displays both the	All excellent

of Site-Plan Course Design, one of Urban-design Course, totally 5. They all are registered planners and are from *TOUP*.	past ordinary content, and also focuses on above policy requirements. 3) Quality of the full set of results is beyond expectation, which is better than classes in previous years and the same year. 4) Educational reform practice represents above policy requirements, and this experience deserves to be promoted to other design courses.	
2 teachers, also associate constructors, from Architecture Teaching and Research Office.	1) The experience of teaching reform practical deserves to be promoted to architecture design courses. 2) The policies *SC* and *ER & CM* also need to display in the undergraduate program of architecture.	All excellent
1 senior planner outside school. He is a senior planner, and chief planner in a design institute.	1) The reporting is comprehensive, basic materials are in details and investigation and study are intensive. 2) Ordinary content gets a good display. Three polices are integrated and highlighted. 3) The teaching method is at the forefront and achieves a sound teaching effect. Students can be competent to engage in *UCPF* in the context of new urbanization after graduation.	Excellent
12 students from small-class of class 2013-2.	University-level network assessment.	All full-mark
5 postgraduate students from 5 years' urban planning undergraduate program of different universities.	1) It's the first time to clearly integrate with 3 policies requirements. Students can not only learn the overall knowledge within *UCP'* framework, but also broaden their horizon. They are qualified to engage in *UCPF'* work in the context of 3 policies. 2) Cases are well selected. Population scale of Quanzhou-County town is suitable to conduct the teaching of undergraduate course *UCP*. 3) Students get high motivation, great harvest and sound teaching effect by small class teaching and grouping to finish the full set of result. 4) Panel of judges is simulated in the result reporting. Senior planners from *PDI* outside school give comments, which can enlighten students about project review and facilitate them to learn the social needs. 5) Comparing with undergraduate courses, it's with more comprehensive content, edge-cutting concepts, and higher quality.	Non-involved

Data source: It's collected according to in-class teaching quality evaluation form and audio-video materials of open class of *GUT'* course *UCP* on April 28, 2017, and feedback from online judgment about courses in *GUT*.

Conclusion and Suggestions

This practice of teaching reform achieves results below: 1) the policies of *SC*, *MPL*, and *ER & CM* are merged into the knowledge points of the course *UCP*. 2) *UCP* of county town is taken as the preferred case; 3) craftsmanship teaching mode; 4) "4+1 result" reporting and comment mode. It's assessed that a fruitful teaching effect is achieved. It facilitates to cultivate urban-rural planning professional talents who are in line of economic and social development in China, with solid theoretical and practical skills of *SC*, *MPL*, and *ER & CM*, and other theories and skills, for peer colleges' reference.

However, some deficiencies are found in teaching reform practice: 1) Too much class-work. There's no theoretical planning about policies above in the course *PUCP*, and it's hard to interpret it thoroughly in in-class teaching. Students practice and teacher guidance after class are too much. 2) A certain limitation. Case selection is affected by the project library of *UCP*. It cannot guarantee that ideal cases can be selected for every class of the same university or universities with little projects. But surely it's not a problem for most peer universities.

Acknowledgement

References

[1] Series of Keynote Address Reading of General Secretary Jin-ping Xi: Green Hills and Clear Waters are Mountains of Gold and Silver, Urbanization Working Conference of the Central Government [DB/OL]. http://cpc.people.com.cn/n/2014/0829/c164113-25567379-3.html. 2014-08 -29/2018-01-18.

[2] The Central Economic Working Conference was Held in Beijing, and Jin-ping Xi and Ke-qiang Li Delivered Keynote Speech. [N]. People Daily. 2014-12-12(1).

[3] The Central Urban Work Conference was Held in Beijing. [DB/OL] http://www.xinhuanet.com /politics /2015-12/22/c_1117545528.htm. 2015-12-22/2018-01-18.

[4] Craftsman [DB/OL]. https://baike.baidu.com/item/%E5%B7%A5%E5%8C%A0/10137866?fr =aladdin. /2018-01-18.

[5] Who Designed the Imperial Palace? [DB/OL]. https://baike.baidu.com/tashuo/browse/content? id= 91862aba0c53ed87940abc25&Fr=qingtian. 2017-05-05/2018-01-18.