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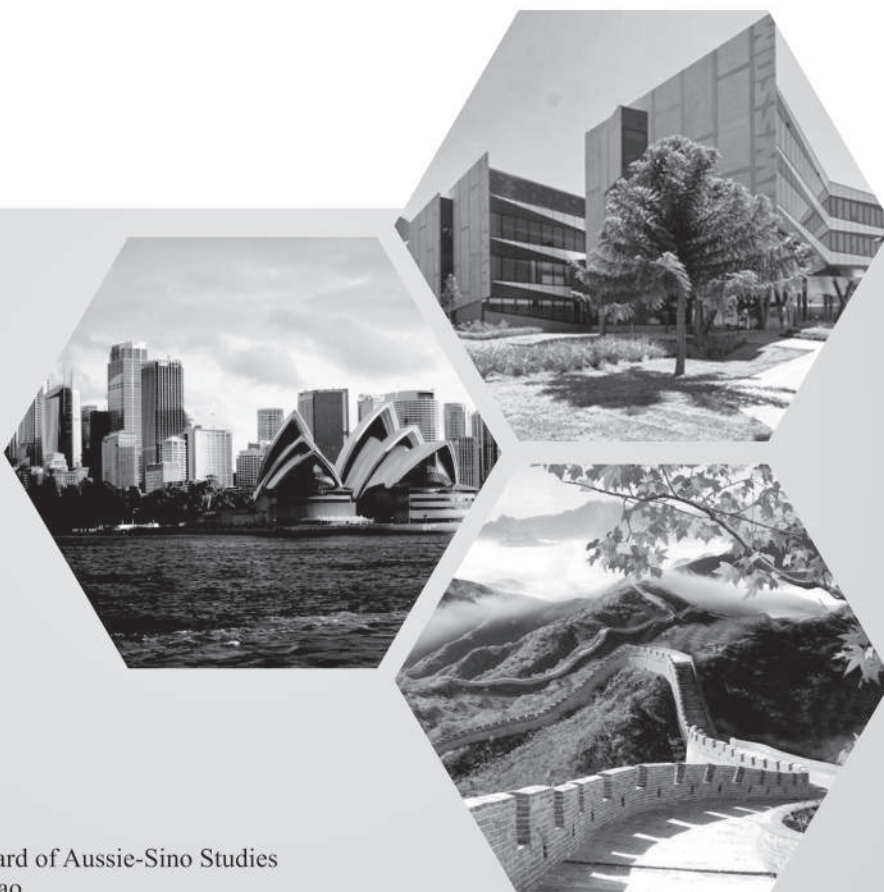
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Work-life Balance and Retention of Bank Employees in the Greater Accra Region of Ghana

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Abstract: The banking industry in Ghana is one industry that suffers the risk of labour turnover due to intensive competition which puts pressure on employees who have to meet the demands of the work and at the same time demands from the family. The focus of this empirical study was to examine the effects of work life balance on the retention of employees in the banking industry in Accra, Ghana. The study followed an explanatory cross-sectional survey design and was undertaken in the Accra Metropolitan Area. A sample size of 342 employees of banks was used for the study. A Binary Logistic regression analysis was conducted to find out how well the work-life balance could predict employee retention. The findings indicate that work-life balance significantly predicted employee retention. The banks should therefore provide some level of flexibility because work-life balance appears to be important to employees in the industry. It is recommended that the banking industry pays attention to its human resources so that they could achieve a competitive advantage through them. It is also recommended that the banks collaborate with universities and other academic institutions for research on problems confronting them so that the best solutions could be derived for effective management of human resource.

Key words: work-life balance, retention, bank, employees, family

Introduction

The concept of Work-Life Balance (WLB) recognises that employees have important family and extra professional obligations that compete with their professional commitments. While there is no one accepted definition of what constitutes a WLB practice, the term usually refers to one of the following: flexible work options, organisational support for dependent care and family or personal leave (Estes & Michael, 2005). Withers (2001), also asserts that WLB programmes cover a variety of interventions, and include such practices as dependent care leave, childcare subsidies, eldercare programmes, counseling, referrals and flexible working hours. Some organisations also implement specific programmes to help employees balance their lives both at work and at home and these include flexible employment, family-friendly work policies, telecommuting, wellbeing programmes, employment conditions and social and community practices (Beauregard & Henry, 2009; Zatzick & Iverson, 2006).

Thus, WLB is an organisational arrangement that give employees enough time for work and enough time to take care of other important family issues. Delecta (2011) defined WLB as an individual's ability to meet their work and family

commitments as well as other non-work responsibilities and activities. Similarly, Aryee, Srinivas and Tan (2005) indicate that work-life balance occurs when there are incompatible demands between the work and family roles of an individual that makes participation in both roles more difficult. This could affect an employee's relationship in the family or output at the work place and eventually his or her retention decisions. Dierdorff and Ellington (2008) described WLB as a form of inter-role conflict in which the role pressures from work and family domains are mutually incompatible. Donaldson (2001) also indicated that demographic changes in the workforce have brought about an increased focus on work and family issues. According to Deery (2008) it appears that the conflict between these important dimensions of human activity can cause both job dissatisfaction and family conflicts and hence intention to leave an organisation. Thus individuals who have to work and at the same time play major roles in their homes are likely to experience conflict or face challenges with both roles. Meanwhile, economic changes in the world has transformed the typical family structure from traditional breadwinner families to dual-earner model. It is therefore important for employers to give greater attention to WLB issues since they tend to lead to retention (Hutchings, De Cieri & Shea, 2011).

Stanton, Balzer, Smith, Parra, and Ironson, (2001) also

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stated that failure of employees to manage the demands of work and at the same time family pressures create conflicts that produce stress and anxiety. When the demands from work or home exceed one's resources, the pressures associated with one role begin to conflict with one's ability to fulfil the norms associated with the other role, when time, money, and energy remain unchanged. Brotheridge and Lee (2005) stressed that employees who are unable to manage the role conflict between work and family experience poorer health, greater absenteeism, poorer work performance and lower quality jobs characterized by greater demands and fewer resources. Such factors also force individuals to either decide to continue working or leave for other jobs.

Ford, Heinen and Langkamer (2007) posit that management support is greatly required if the role conflict between work and life is to be beneficial to those who spend a great deal of time on work and work-related activities and also helps in reducing employee turnover. The cost of WLB could prove expensive because the cost of replacing workers is high, finding skilled employees can be difficult, and investments in training are less secure (Lochhead & Stephens, 2004). According to Fitz-enz (1997) the average company loses approximately \$1 million with every 10 managerial and professional employees who leave the organisation. Cascio (2006) also affirms that the costs associated with recruiting, selecting, and training new employees often exceed 100% of the annual salary for the position being filled. Thus, every turnover of skilful employees come at a cost and the combined direct and indirect costs associated with one employee leaving an organisation ranges from a minimum of one year's pay and benefits to something more substantial. Also, when knowledgeable employees leave an organisation, the consequences go far beyond the costs of recruiting and integrating replacements. Consequently, most employers are seeking better ways to manage turnover in order to retain valued human resources as well as sustain competition and high performance. One of such measures has been helping employees to achieve a balance between their work life and family responsibilities (Ford *et al.* 2007).

Employee retention is an increasingly important challenge for organisations as the age of the knowledge worker unfolds (Lumley, Coetzee, Tladinyane & Ferreira, 2011). Presently the labour market belongs to employees, because talented candidates in the global job skills market have the luxury of choice (Harris, 2007). Employees, both new and experienced are realizing that they have more discretion in their choice of organisations to work with (Clarke, 2001). The dynamic business environment has brought to bear a lot of organisational challenges, a prominent one being the retention of adept employees.

Meanwhile employee turnover is costly and can negatively affect organisational effectiveness and employee morale (Kacmar, Andrews, Van Rooy, Steilberg, & Cerrone, 2006; Shaw, Gupta, & Delery, 2005). Employee retention in the banking industry is even more crucial because banks have become very effective partners in the process of economic development. The health of a country's economy is closely related to the soundness of its banking system.

The services that banks provide are exceedingly important in a free market economy such as Ghana. Accordingly, initiating WLB practices and maintaining higher levels of job satisfaction determine not only the performance of banks but also affect the growth and performance of the entire economy (Thakur, 2007). In Ghana, the banking industry has been turbulent in recent times putting a lot of pressure on employees (Owusu, 2012). The industry has also welcomed a number of banks which further increases competition. According to Cetorilli and Goldberg (2012), competition in the industry has resulted in the need for banks to be efficient and profitable, resulting in mergers and acquisitions. Essays (2013) posit that in the quest of management of the banks to remain competitive and become market leaders, several tasks are imposed on employees in order to cut costs and ensure greater efficiency. Strict deadlines with sanctions for failure to meet such deadlines, attending meetings at short notices and long working hours has resulted in bankers putting in more effort to sustain their jobs to the neglect of their families. These situations put a lot of pressure on employees who now have to achieve a balance between meeting the demands of work and fulfilling their family responsibilities. As posited by Reddy, Vranda, Ahmed, Nirmala and Sddaramu (2010) multiple roles played by employees affect the health and wellbeing of these employees and this therefore calls for an understanding of the implications of balancing work and family performance. It is for this reason that this study seeks to assess the effect of work-life balance on retention of bank employees.

1. Literature review

1.1 Theoretical Framework

The role conflict theory forms the theoretical basis for the study. According to Allard, Haas and Hwang (2011) the role theory has been the main theoretical model to study work and family issues. Roles can be described as a set of expectations characterized by the type of behaviour required for a particular position. Role conflict is brought about by a situation where two roles are competing such that it becomes difficult to play one role to the neglect of the other. Role conflict is based on the notion that roles that are incompatible lead to conflict. Bianchi, Casper and King

(2005) stipulated that when two roles are such that concentrating on one role will take time off the other, conflict is likely to occur.

This theory is based on the idea that time dedicated to family activities such as taking care of children and elderly dependents cannot be devoted to work activities. The demands of different roles may bring about competition for the time that a person has and this makes it impossible to perform the competing roles at the same time. Essentially, the time and energy required for work-related activities cannot be spent on family-related activities, and this results in family-work conflict.

According to role theory, role conflict occurs when individuals engaging in multiple roles (such as work and family roles) face resource constraints in terms of time or energy and have difficulty successfully fulfilling their multiple role responsibilities. Within work-family research, two distinct forms of conflict have been identified: work interfering with family (WIF) conflict and family interfering with work (FIW) conflict. WIF conflict occurs when demands of the workplace impede family role performance, while FIW occurs when demands of the family impede work-role performance (Frone, Russell, & Cooper, 1993).

The concept of work-family conflict has been explained by Kahn, Wolfe, Quinn, Snoek and Rosenthal (1964) using the role theory framework. In this context, Kahn et al., (1964) explained that work-family conflict is a form of inter-role conflict in which the role pressures from work and family fields are mutually incompatible.

Individuals have a finite amount of physiological and psychological resources to expend on multiple role obligations (Goode 1960). Eventually, involvement in work and family roles reduces these resources and inevitably results in role conflict (Kahn et al., 1964). The resulting conflict would lead to the individual trying to achieve a balance between work and family life. This would therefore lead to the individual either sacrificing family or work duties since participation in one domain (for example, work) precludes participation in the other (for example, family). The dilemma therefore makes the employee take a decision on either to continuously work or think about concentrating on only the family therefore fuelling the retention decision.

1.2 Effects of Work-Life Balance on Employee Retention

The most recent addition to research on employee retention is how balancing work and life roles influence an employee's decision to remain with an organisation. WLB is fast becoming an important work related issue and over the past decade, there has been an increasing number of scholarly articles on the issue.

In a survey of 448 employees by Dibble (1999), flexible

working hours was the third most frequently mentioned reason why employees remain with their current employer. Also, in a survey of 1,862 employees in the United States, Ashby and Pell (2001) found out that, most workers wanted a job with flexible hours that allowed them to take care of personal issues, while a substantial number cited similar reasons for their preference for working at home.

A study by Maxwell (2005) also indicated that WLB policies such as the introduction of flexible working hours and arrangements, provision of better training, breaks from work and better work support do not only address WLB issues but also enhance employee retention. Also, Byrne (2005) in reviewing literature on the concept of WLB as a means of tackling numerous HRM problems established that, the achievement of better WLB could yield dividends for employers in terms of retaining valued employees and maximizing available labour.

Comparably, Deery (2007) in examining literature relating to retention of good employees and the role that WLB issues have in an employee's decision to stay or leave an organization, found out that WLB plays a significant role in influencing employee retention. Beauregard and Henry (2009), in their study, making the link between work-life balance practice and organizational performance, also suggested that WLB practices influence organizational performance, enhances social exchange process, improves productivity and reduces employee turnover.

Similarly, Cegarra-Leiva, Sanchez-Vidal and Cegarra-Navarro (2011) also investigated work-life balance and the retention of 149 managers in Spanish SMEs and found out that informal support for work-life balance expressed through the existence of positive and supportive organisational values play a major role in enhancing organisational outcomes such as job satisfaction and retention.

In their study on employee attraction and retention, Hutchings, De Cieri and Shea (2011) also identified a need for employers to give greater attention to WLB issues. The majority of the responses from the study were from large to medium firms, which had large HR departments and HR managers with a strategic role, which could be expected to have more progressive HR practices around attraction and retention.

Furthermore, Kumari (2012) investigated the perception of employees and its relation with job satisfaction in Indian public sector banks using 350 respondents. The findings of the study emphasized that, WLB factors are predictors of job satisfaction. Practically, the significance of the results is that human resource practitioners can improve staff commitment, satisfaction, productivity and employee retention through work-life balance policies.

Based on the review, the study therefore posit the following hypothesis:

H₀: Work-life balance does not have a significant effect on employee retention.

2. Methodology

The sample consisted of a total of 342 employees of 13 selected banks in the Greater Accra Region of Ghana. The sample comprised of officers, middle level and top level staff of the banks. Questionnaire was employed as the instrument for data collection. The questionnaire comprised of three sections. Section A elicited data on the demographic characteristics of the respondents, section B had questions relating to work-life balance while section C had questions on retention. The Cronbach alpha for the eleven items used in measuring work-life balance was 0.852 indicating that there was internal consistency in the scale. Employee retention was measured using a dichotomous scale of 0-1 indicating retention (1) and no retention (0). Out of the total of 342 questionnaires distributed, 230 were received and used for the analysis representing a response rate of 67.3. A logistic regression was used to analyse the effect of work-life balance on retention. This is because unlike the other models, logistic regression is highly effective at estimating the probability that an event will occur and it offers a new way of interpreting relationships by examining the relationships between a set of conditions and the probability of an event occurring (Sweet & Grace-Martin, 2003). According to Larsen, Petersen, Budtz-Jørgensen & Endahl (2000), logistic regression for the study of dichotomous binary variable is easier to use and includes measures for generating the necessary dummy variable automatically. They also suggest that the method is statistically rigorous in practice and is easier to comprehend.

Logistic regression was employed to ascertain how well the independent variable - work-life balance predict the

dependent variable - employee retention.

The following regression equation was used for the study:

$$\{(P_i = f(Y=1|X_i) = \beta_0 + \beta_1 X_1 \dots\dots\dots (1)\}$$

Where

P_i = the probability of retention

Y = dependent variable (employee retention)

When Y = 1 intend to stay in the organisation or

When Y = 0 do not intend to stay

The LOGIT model can be linearised as

$$\text{Logit } \{(P_i/(1-P_i) = \beta_0 + \beta_1 X_1 + \varepsilon \dots\dots\dots (2)\}$$

The dependent variable is the natural log of the probability of Retention (P_i) divided by the probability of No Retention ($1-P$).

Where:

β_0 = is the Y intercept or constant

β_1 = coefficient of regression which measures how each independent variable influences the dependent variable that is employee retention.

X_1 = Work-Life Balance

ε = Error term

3. Results and discussion

3.1 Socio-Demographic Characteristics of Respondents

Descriptive statistics such as frequencies and percentages relating to the socio-demographic characteristics of respondents are presented in Table 1. More than half of the respondents (59.6%) were males, which is not surprising because, usually, banks are not attractive to women due to the long working hours required from employees. The majority of employees (46.1%) were in the economically active age group of (30-49 years) with only 6.5% being 50 years or more. Due to the relative youthful nature of the respondents, 46.1% had no dependents. Also, more than half of them (55.2%) were married while 40.9% were single.

Table 1. Socio-Demographic Characteristics of Respondents

Characteristic	Frequency	Percent
Gender		
Male	137	59.6
Female	93	40.4
Total	230	100.0
Age		
Below30	77	33.5
30-39	106	46.1
40-49	32	13.9
50 and above	15	6.5
Total	230	100.0

Marital status		
Single	94	40.9
Married	127	55.2
Separated	4	1.7
Divorced	2	0.9
Widowed	3	1.3
Total	230	100.0
Level of education		
Diploma	6	2.6
Bachelor degree	125	54.3
Masters degree	74	32.2
Professional	25	10.9
Total	230	100.0
Monthly income		
Below GH¢1000	32	13.9
GH¢1000-1499	53	23
GH¢1500-1999	62	27
GH¢2000-2499	33	14.3
GH¢2500 or more	50	21.7
Total	230	100.0
Number of dependants		
No dependant	107	46.5
1-3	90	39.1
4-6	27	11.7
More than 6	6	2.7
Total	230	100.0
Current rank		
Officer / supervisory level	137	59.6
Middle management level	76	33.0
Top management level	17	7.4
Total	230	100.0
Length of service		
1-5 years	142	61.7
6-10 years	54	23.5
11-15 years	16	7.0
16-20 years	7	3.0
21-25 years	4	1.7
26-30 years	5	2.2
31-35 years	2	0.9
Total	230	100.0

Most of the respondents had obtained bachelor's degree (54.3%). The monthly income of respondents however varied significantly. Out of 230 respondents, only 13.9% received below GH¢1,000 with 21.7% earning GH¢2,500 or more.

Most of the respondents (61.7%) had been working in their organisations for not more than five years. Only 13.9% had been working for between 11-35 years. In terms of rank, 59.6% were at the officer/supervisory level, 33% at middle

management level and only 7.4% at the top management level. This depicts a pyramid structure which is usually the norm in most organisations.

3.2 Work-Life Balance

Table 2 shows that generally, respondents were neutral to most of the statements regarding WLB in their organisations. However, as to whether employees were

allowed to work for longer days per week so as to get a day off, there was disagreement (Mean = 2.36). Meaning this was a rare practice among the banks. The same applied to employees being allowed to work from home (Mean = 2.40). Respondents strongly disagreed to the fact that once they notified their supervisor, they are sometimes allowed to work from home.

Table 2. Work-Life Balance among Employees of Banks in the Greater Accra Region

Statement	Mean	Std. Dev.
My working life balances well with my family life.	2.90	0.982
My organisation offers flexibility as to when to start and end the day's work.	2.92	1.210
My organisation allows working for longer days per week to get a day off.	2.36	1.107
The volume of work that I have been assigned does not give me stress.	2.69	1.051
Other banks do not offer better work-life balance than my organisation.	2.89	0.872
Once I notify my supervisor, I am sometimes allowed to work from home.	2.40	1.092
I can easily take time off for 'home crisis' such as flooding, accidents or illness involving loved ones.	3.60	0.909
I am satisfied with the amount of time I spend at work	3.21	1.053
I have the time and energy to fulfil my responsibilities outside of work.	3.14	1.029
My ability to achieve the desired balance between work and family life is a source of good health.	3.55	0.903
I think that if employees have good work-life balance the organisation will be more effective and successful.	4.09	0.818

However there was a general agreement to the statement 'I think that if employees have good work-life balance the organisation will be more effective and successful' (mean = 4.09). A high percentage of 53.5 and 30.9 respectively agreed and strongly agreed to this statement with only 3.5% disagreeing to it. This shows that WLB issues are important to the employees. Although there appears to be some minimal level of WLB, generally it appears issues on work life balance are not given much attention by management of the banks.

3.3 Retention of Employees

Respondents were asked to indicate the number of people they thought had left their organisations over the previous year. This is depicted in table 3. The majority of respondents (61.3%) stated that between 1-10 people had left, 26.5% mentioned between 11-20 people, 8.7% indicated between 21-30, with only 1.7% indicating that between 31-40 and 41-50 employees respectively had left the organisations in the last year.

Table 3. Number of Employees Who Left Last Year

Number of Employees	Frequency	Percent
1-10	141	61.3

11-20	61	26.5
21-30	20	8.7
31-40	4	1.7
41-50	4	1.7
Total	230	100.0

This means that normally between 1-10 employees were perceived to have left the branch of a bank in a year. Although 1-10 employees leaving throughout a year may not represent a very high number, it is still a worrying sign. No matter how small the turnover rate, the cost of replacement could be substantial since the cost of replacing an employee usually amounts to a quarter of his/her annual salary (Chew, 2004). The intention of employees to remain with their organisations in future was used as a proxy to determine the retention rate in the banks. Figure 1, indicates that the banks could retain 47% of their employees. These were those who indicated that they will remain with their organisations even if they are offered better opportunities elsewhere. This means that more than half (53%) of employees will leave their organisations if offered better opportunities elsewhere. Although it cannot be categorically stated that there is no retention in the banks, having a higher percentage of employees looking for other options is not healthy.



Figure 1. Employees' Intention to Stay With Their Organisations

3.4 Effect of Work-Life Balance on Retention

Work-life balance was found to have significantly influenced employee retention ($B = -0.093$, $\exp B = 0.911$, $P < 0.01$). The hypothesis that WLB does not have a significant effect on employee retention is therefore rejected. The negative coefficient and odds ratio of 0.911 however shows that there is an inverse relationship between WLB and retention in the sense that a unit increase in work-life balance results in a slight reduction (by 0.91 times) in the likelihood of employees staying with their organisations. It is not surprising that WLB has a significant effect on employee retention because most often than not, families issues play significant roles in the lives of individual employees.

The inverse relationship could however mean that the WLB needs of employees change overtime. For instance, employees with young children will no longer need flexible work schedules if their children become of age. Again an employee who is taking care of an elderly dependent may not require the flexibility if another relative decides to relieve such an employee of the caretaker duties.

The findings of this study confirm that of Hutchings et al. (2011) who also established that greater attention to WLB progressively addresses HR practices such as attraction and retention. Similarly, the findings support that of Maxwell (2005) who indicated that the introduction of flexible working hours and arrangement, provision of better training and work do not only address WLB issues but also enhances employee retention.

Furthermore, the findings of the current study is similar to that of Bryne (2005) who found out that the achievement of better WLB can yield positive results for employers in terms of retaining valued employees and maximising available labour.

Table 4. Results of Binary Logistic Regression Analysis

Variable	Model			
	<i>B</i>	Wald's X^2	Odds Ratio	Sign.
Constant	- 2.867	5.928	0.057	0.015
Work-life balance	0.025	12.821	0.911	0.000

4. Conclusion and recommendation

The study sought to examine the effect of work-life balance on employee retention. Results of the study point to the fact that WLB influences employee retention in the banks. After reviewing the literature on previous studies by Chew and Chan (2008) and Hong, Hao, Kumar, Ramendran and Kadiresan (2012) the results of this study provide evidence that WLB is a recent addition to research on HRM issues. The construct however significantly predicted employee retention in the banks. This could mean that it is now not enough for organisations to stick solely to the traditional HRM practices (example, compensation and training) but also explore contemporary practices such as WLB that can

equally impact the retention of adroit employees.

The findings of the study have some valuable implications for practitioners and organisations alike. It will be particularly useful for organisations to understand how they can improve their employee retention strategy. Banks facing retention problems could among other things, institute HRM practices such as WLB as part of their mitigation measures. This is because WLB have been found to positively affect retention and hence an essential human resource management tool.

In the face of competition and advances in technology, there is a natural tendency for banks to invest substantially in ICT to enhance their operations but this should not be at the expense of the human resources. It is recommended that the banking industry pays equal attention to its human resources so that they can achieve a competitive advantage through them. Also, it appears that generally, there is lack of flexibility in the banking industry even though WLB appears to be important to the employees. Therefore the banks can decide to provide some level of flexibility such as job sharing or allowing employees to work for longer hours some days per week in order to get a day off or sometimes work from home also known as telecommuting.

This flexible options can be undertaken on a pilot basis and for some category of staff who do not interface regularly with customers so that its import could be assessed. It is possible that those banks that are able to initiate these could have some competitive advantage. Finally, it is recommended that the banks collaborate with universities and other academic institutions for research on problems confronting them so that the best solutions could be derived for human resource management.

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The Four Schools Affecting American Foreign Policy and the History & Future of Sino-US Relations

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Abstract: Four foreign policy schools, Jeffersonianism, Hamiltonism, Jacksonism and Wilsonism, jointly dominated American foreign policy, including China policy. These four schools are rooted in the unique political culture and political system of the United States and have inherent unity. They quarrel and struggle, but often reach consensus and move forward together. In the several stages of the evolution of Sino-US relations, these schools come and go. Sino-US economic and trade relations have continued to develop, and political friction has been constant. During Trump's administration, Jacksonism played a leading role, greatly reducing the ideological pressure on China, but the economic, trade and military pressures are likely to increase constantly.

Key words: Sino-US Relations, the Four Schools, Jacksonism

1. Four Schools of Thought on American Foreign Policy

As the first and second largest economies in the world, the relationship between the United States and China is not only related to the national development of the two countries, but also have an effect on the world. If we look to the future, we must first look back on the past.

There are four school of thought shaped the foreign policy of the United States : Jeffersonianism, which mainly represents lawyers and focuses on safeguarding democratic system; Jacksonism, which mainly represents soldiers and emphasizes on the values of populism and military strength; It mainly represents businessmen, Hamiltonism which focuses on protecting and developing commerce, and Wilsonism which mainly represents missionaries and emphasizes morality. If we insist on making a division or induction of them from their attributes, it can be simply summed up as the former two with isolationist tendencies and the latter two with expansionist tendencies. Walter Russell Meade, a famous American scholar, believes that these four schools have their own strengths and characteristics, as well as their own weaknesses and blind spots.^[1]

The original Jeffersonians were afraid that the power of the federal government would be too centralized and expanded, so they opposed the expansion of foreign trade

and were wary of commercial development. They believe that too much commercial interest will undermine a country's democratic process. Today's Jeffersonians also believe that democracy and freedom in the United States are hard-won. They are extremely valuable and fragile. If they take part in foreign politics rashly, once a war breaks out, they will lead to the expansion of the power of the executive branch and the expansion of the strength of the army, which will destroy the existing constitutional system and hurt democracy. So what America can do is to defend its own democracy and make it a model for the world. Therefore, the contemporary Jeffersonians have sung the opposite tune in almost all foreign military intervention. With the strength of the United States and the establishment of world leadership, Jeffersonianism's diplomatic strategy seems more and more inappropriate, but its value cannot be ignored, because a high-speed car often needs a qualified "brake".

Similar to Jeffersonianism, Jacksonism, which also has the tendency of isolationism, inherits most of its values. The difference is that Jacksonism focuses on military strength, values honor and has courage in foreign policy. Jacksonists believe that it is a sacred duty to join the army, that the right to bear arms is a symbol of equality in civil society, and that it is a weapon to defend the country and defend against infringement by the federal government. So Jacksonists advocate direct democracy and support the strengthening of armaments. They believe that the international community is chaotic and disorderly, and that the United States should

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pursue Machiavellianism instead of taking into account international practices and international morality. Jacksonists are not belligerent, but they have a strong sense of national honor and abide by their promises. Once they fight for national honor or for the protection of others, they will be brave and tenacious. They will fight to the end and seek nothing but victory.

The "Hamiltonian" school, which appeared at the same time as Jeffersonianism but was almost completely opposed to Jeffersonianism, fully supported the commercial development and foreign trade expansion of the United States. Hamiltonians adhere to the principle of free trade, advocate open doors, and seek national financial stability. They regard maintaining a national system that promotes free capital activities as the foundation of American foreign policy. Today's Hamiltonians believe that in order to achieve the broadest goal of the free flow of global capital and goods, as well as the establishment of international legal and financial order, the United States must participate in global affairs, take the initiative and strive to build a world order in which all free countries accept the rules of common international law.

Wilsonism can be traced back to the Puritan ideas that just arrived in the United States. They can be called "missionaries" in the political and diplomatic areas. Wilsonians believe that international support for democracy is not only the moral responsibility of the United States, but also the actual needs of the United States. They also believe that war is cruel and ruthless, so they have been carrying out peace campaigns all over the world - giving birth to the International Red Cross and the Geneva Conventions, as well as the League of Nations, the World Court of Justice and the United Nations. Wilsonians insist on promoting democracy, pursuing equality, opposing colonial rule and supporting women's liberation all over the world. They have almost become the embodiment of morality and progress, or the "panacea" to cure all kinds of human diseases.

Looking at the history of American foreign relations, although there are obvious differences and quarrels among the four foreign thought schools mentioned above, because they all have the same political and cultural basis - Protestant ideas, liberalism, nationalism and pragmatism, the inherent consistency among the four schools rooted in them determines that they will never be separated from each other and will never forget their origins. The basic attributes make all the disputes focus on the strategic objectives of the United States and unite with its own interests. With the passage of time and the changes of society, the four schools also keep pace with the times and learn from each other to make up for each other's weaknesses. This will not only enhance the cohesion of American society, but also enhance the national

strength of the United States. It also provides the possibility for the United States to combine both "hard" and "soft" means in its foreign policy. Just as in the early days of the founding of the United States, because of its weak national strength, Jeffersonianism advocated isolation became the dominant. However, once the strength of the United States is strengthened and the challenge of the outside world is clearly felt, the four schools will reach a consensus and take Jackson and Wilsonism as the vanguards to respond. The best example is that the United States defeated its strong enemies during World War I, World War II and the Cold War, marched in triumph, and finally laid the dominant position of the United States in today's international system.

2. The Evolution of Sino-US Diplomatic Relations

The first stage: 1949-1989 years

After the founding of New China in 1949, it pursued a one-sided foreign policy towards the Soviet Union. In early 1950, China and the Soviet Union signed the Treaty of Sino-Soviet Friendship, Alliance and Mutual Assistance. In the same year, the Korean War broke out, China and the United States entered a state of military confrontation. The United States allies have imposed an all-round economic and military siege on China. However, the international situation changed dramatically in the late 1960s. In order to confront the most dangerous and aggressive enemy, the Soviet Union, the two old enemies, China and the United States, released their old suspicions and jointly fought against the Soviet Union. After Nixon's visit to China in 1972, China and the United States established diplomatic relations in 1979, which essentially established the alliance relationship between the two countries to confront the Soviet Union, changed the international strategic pattern, especially improved China's strategic position. At the same time, it opened the door for the comprehensive political, economic, military and cultural exchanges between China and the whole Western world, including the United States. Since then, Sino-US relations have opened the most successful "golden decade". During this period, China's comprehensive national strength has increased greatly. But even at the climax of Sino-US cooperation, "Taiwan issue" is still an obstacle between China and the United States. Just one month after the establishment of diplomatic relations between China and the United States, President Carter signed the Taiwan Relations Act introduced by Congress, which clearly stipulates that the United States can continue to sell defensive weapons to Taiwan, leaving a hidden danger for the smooth development of Sino-US relations. After repeated negotiations, the two sides signed the famous "August 17 Communique" on August 17, 1982, and reached an agreement on the issue of US arms sales to Taiwan.

From 1949, when New China was founded to 1989, during the Cold War, the four foreign policy schools of the United States united and jointly fought against the enemy, with Jackson and Wilsonians in front of them, and Jefferson and Hamiltonians in the rear to provide support. In their eyes, communism represented by the Soviet Union and capitalism represented by the United States are sharply opposed to each other in political system and ideology. After the founding of New China, China joined the Soviet Union camp, especially when China and the United States fought in Korea. So naturally, the four schools regarded China as the enemy of the Soviet Union, which led to the policy of the United States to suppress and encircle China in an all-round way. In order to confront the Soviet Union and after the alliance with China, the four United schools changed their attitudes towards China. Especially after China's reform and opening-up policy was implemented in 1978, the United States saw China's hope of closing to it in political system and ideology, and began to cooperate with China in an all-round way. The relationship between China and the United States was warming up in an all-round way.

The second stage: 1989-2000 years

With the dramatic changes in the Soviet Union and East Asia and the end of the Cold War, the strategic alliance between China and the United States against the common enemy, the Soviet Union, lost its foundation because of the disintegration of the Soviet Union. After the political turmoil of 1989, the United States imposed comprehensive sanctions on China, and Sino-US relations fell from the peak to the bottom. After the arduous efforts of the leaders of the two countries, Sino-US relations have been restored. However, due to the disintegration of the Soviet Union, China has changed from an ally to an adversary in the eyes of the United States. Various hidden contradictions between the two sides have surfaced, and Sino-US relations have entered a turbulent period.

In 1993, the Clinton Administration advocated linking MFN treatment with human rights issues in China until the Galaxy incident, which plunged Sino-US relations into crisis. The following year, Clinton signed the State Council Authorization Act for the 1994-1995 Fiscal Year, which was equivalent to the unilateral denial of the August 17 Communique by the United States. This provided a legal basis for the full involvement of the United States in the Taiwan issue, and led to Lee Denghui's visit to the United States. This series of policies of the United States Government violates the principles of the three joint communiqués between China and the United States. China's response to this issue is tit for tat. In the spring of 1996, the PLA (the Chinese People's Liberation Army) conducted missile launching exercises along the southeastern coast,

which led to confrontation between two US aircraft carriers and the PLA. So far, the Taiwan Sea crisis broke out. In addition, on May 8, 1999, the Chinese Embassy in Yugoslavia was hit by an American missile. On that day, the Chinese government solemnly condemned the incident and strongly protested against the United States. Large-scale demonstrations erupted in China to denounce the U.S. bombing.

Starting from President Clinton, for decades, the U.S. policy toward China has basically followed a fixed pattern of alternating "engagement" and "containment". On the one hand, for China's possible expansion, the United States has stepped up the establishment of effective restraint mechanisms; on the other hand, it will try to promote China to join the international political and economic system dominated by the United States. Therefore, in economic and trade exchanges, the two countries have maintained a trend of rapid growth. It is precisely because the economic and trade relations between the two countries have developed into the "ballast stone" of bilateral relations that the two heads of state exchanged visits in 1997 and 1998 respectively, which improved Sino-US relations. The two countries then issued the Joint Statement, which established a "constructive strategic partnership" between the two countries for the 21st century. Since then, China and the United States have signed bilateral agreements on China's accession to the World Trade Organization, and the United States Congress has passed a permanent normal trade relations bill with China.

With the end of the "89th Storm" and the Cold War, Sino-US relations entered President Clinton's administration. Wilsonism and Hamiltonism jointly play a leading role and became pioneers and protagonists. Jacksonism has temporarily retreated to Jeffersonianism position, both of which live in the background. The United States won a great victory in the Cold War, Wilsonians believe that it is a good time to promote the rule of law, spread the concept of freedom and democracy, establish international institutions to fight aggression and protect human rights. Hamiltonians believe that the military strength and economic vitality of the United States are incomparable. They should seize this unique opportunity to establish a world-wide trade and financial system. However, it is clear to Wilsonians that China's internal and external policies and ideology are increasingly like America's new enemies. The characteristics of Sino-US relations during this period were cold politics and hot economy. The hot economy could be regarded as the success of Hamiltonians. But we must see that Wilsonians also support the development of economic and trade relations with China in order to promote China's democratic transformation. Because they believe that the economic development promoted by market economy is conducive to

the evolution of China's political system to democratic system and the closing of China's ideology to liberalism.

The third stage: 2001-2009 years

In the 21st century, Sino-US relations have entered the George W. Bush's administration. President Bush was deeply influenced by Jacksonism. In the early days of his administration, he changed the concept of "constructive strategic partnership" between China and the United States under President Clinton and positioned Sino-US relations as "strategic competitors", which resulted in a series of events, such as the "South China Sea collision incident", the U.S. arms sales to Taiwan, agreeing to Chen Shuibian's transit and meeting with the Dalai Lama. After September 11, the national security of the United States was challenged by terrorism, so Jacksonists went from behind the scenes to the front and began to charge for the battle. The United States shifted its strategic focus to the Middle East and counter-terrorism, launching two counter-terrorism wars in Afghanistan and Iraq. As a result, the Bush administration has also adjusted its China policy accordingly, shifting its strategy from a "strategic competitor" to a "strategic partner" once again, ushering in another "honeymoon period" in Sino-US relations. During this period, China and the United States opened the two cooperation mechanisms of "China-US Strategic Dialogue" and "China-US Economic Dialogue" in 2005 and 2006 respectively. In terms of trade between the two countries, China's gross domestic product reached 4401.614 billion US dollars in 2007, and the gap between China and the United States in economic scale was 1:10 in 2000. China has rapidly shrunk to nearly 1:3 in 2008, making it the third largest economy in the world.^[2]

The fourth stage: 2009-present

In 2008, the subprime mortgage crisis of the United States spread to the whole world, and the world economy suffered a heavy blow. In this global financial crisis, China not only saved himself, but also led other countries out of the crisis and promoted the recovery of the world economy. Shortly after taking office, Mr. Obama visited China and put forward the concept of G2, which he wanted to work with China to maintain world order, but this idea was rejected by China. After that, a group of figures in 2010 aroused the alarm of the US government. China's economy grew in scale unprecedented, surpassing Japan and becoming the second largest economy after the United States. At the same time, China's GDP surpassed the United States to become the world's first. So far, the two parties of American democracy and Republic have reached a consensus that China is the "main problem" and the rest are the "small problems". In his State of the Union Address in 2011, President Barack Obama called China's rise the Sputnik moment of our time. Therefore, at the end of 2012, the U.S. Department of

Defense issued the New Military Strategy Report, formally launching the "Asia-Pacific Rebalancing Strategy". The essence of the Asia-Pacific rebalancing strategy is to restore, consolidate and strengthen the dominant position of the United States in the Asia-Pacific region. In order to prevent and contain China, they have established the tendency of shifting military resources to the Asia-Pacific region. On the political side, they strengthen the relationship between the United States and its traditional allies in the Asia-Pacific region and vigorously promote TPP in the economic field.

In order to avoid Sino-US falling into the "Thucydides trap", after refusing the concept of "G2", China put forward the concept of "new type of big power relations", which the United States does not refuse, but does not accept. At the same time, on issues such as combating ISIS and sanctioning Russia, the United States wants China to play an "assistant" role, but it does not. The Obama administration believes that with the growth of China's national strength, the change of its leadership and the change of its foreign strategy, China has abandoned its foreign strategy of "hide the light under a bushel, keep a low profile" which has been adhered to since Deng Xiaoping's administration, and has begun to "do something", which is manifested in: Militarily, the rapid expansion of military power, the construction of islands in the South China Sea, the construction of military facilities, and the establishment of air defense identification zones in the East China Sea threaten the traditional dominant position of the United States in the Asia-Pacific region. Economically, China has advocated and implemented "one belt and one road initiative", what's more, China also promoted the establishment of Asian Infrastructure Investment Bank and BRICs new development bank. All these indicate that China has begun to challenge the international order dominated by the United States in an all-round way.

Neither Barack Obama nor Secretary of State Hillary Clinton is Jacksonist. They agree Wilsonian and Hamiltonian, advocate multilateralism and oppose unilateralism. It advocates cooperation and coordination with allies and concerted action. It does not advocate that the United States should go its own way in the international arena and play a solo role. At the same time, advocating the soft power or smart power of the United States and trying to succumb to the enemy without fighting, this is a clear line with Jacksonists who firmly believe in winning by military strength. But with the rapid rise of China's economy and the "do something" foreign policy, the four schools of American foreign policy have gradually come to a consensus on China's policy. They believe that prevention and concern for China are correct. Therefore, the Obama administration has made every effort to promote the strategy of "Asia-Pacific rebalancing", and Jacksonism's influence has begun to rise. It

is undeniable that the Obama administration has initiated a process for the United States to adjust its policy towards China in a truly global framework and to examine and contain China as a top strategic competitor different from the former Soviet Union.

Trump did not intend to change the substance of the Asia-Pacific rebalancing strategy in the Obama era, but became more and more intense. From May 2017, when American warships launched the first free navigation in the South China Sea in the Trump era, to the first arms sales to Taiwan after President Trump took office, there was a clear sense of provocation to China. Over the next few months, the Trump government has been directing its efforts at China. On December 1, 2017, the United States publicly refused to recognize China's market economy status for the first time. On December 12, Trump signed the Defense Authorization Act of fiscal year 2018, which focuses on inviting Taiwan to participate in "Red Flag Military Exercise", "Normalization of US Arms Sales to Taiwan" and considering the feasibility and possibility of restarting "US-Taiwan Naval Ship berthing". On February 28, 2018, another "blockbuster" bill between the United States and Taiwan, the Taiwan Travel Act, was passed by a full vote in the U.S. Senate, which encouraged all levels of officials in the United States and Taiwan to achieve "mutual visits". This series of bills will undoubtedly cause serious damage to the relatively stable Sino-US relations since the establishment of diplomatic relations in 1979. In addition, in the latest editions of the National Security Strategy Report and the National Defense Strategy Report released by the White House and the Defense Department respectively, the United States repositioned China as a "challenger", "revisionist country" and "competitor". President Trump also followed these statements in his next State of the Union Address. In addition to "labeling" and "buckling" China, in the new edition of the National Security Strategy Report, the Trump Administration's biggest geo-leverage on China is to launch the "Indian Ocean-Pacific Strategy" in conjunction with Japan, Australia and India, which opens an arc around China's maritime Silk Road in the Indian Ocean and the Pacific Ocean. It can be said that after 18 years of "anti-terrorism" cycle, the U.S. national security strategic direction was eventually brought back to the "origin" of the beginning of this century by the Trump Administration, when President George W. Bush took office in 2000, he positioned the core threat facing the United States as "strategic competition among big powers".

As a result, with the adjustment of the U.S. security strategy, its arms development and military deployment will also be adjusted accordingly. In January 2018, the U.S. Navy implemented the "Third Fleet" forward strategy. In early

June, the United States changed its largest command, Pacific Command, to "India-Pacific Command". On February 2, the Pentagon released its Nuclear Posture Assessment Report, aiming at lowering the threshold of nuclear weapons use and developing new "low-equivalent" nuclear warheads, targeting China and Russia.

With regard to Sino-US trade, the Trump Administration launched a "trade war" against China at the end of March 2018. It has been one year and one month since then. After a fierce game, it is very likely that the two sides will reach an agreement in the near future to achieve a temporary truce. However, the U.S. containment on China's diplomacy, military affairs, science and technology has not been mitigated at all, but intensified.

Obviously, unlike Barack Obama's belief in soft power, Trump advocates hard power and believes that the strongest person will win the world. Trump hopes that through these measures, together with his China policy, he can achieve his goal of "America first" and "America great again". Trump came to power with the support of the white middle class, which was the social foundation of Jacksonism. From what Trump did when he came to power, he was a Jacksonist, and his policies were almost all accepted by Jacksonists. Coincidentally, the Republican establishment mogul, Senate Military Committee Chairman John McCain and others are Jacksonists who hated Trump but had to support him. In this way, Jacksonism will naturally come to the fore and become the leading force. Many people in America are dissatisfied with Obama's eight years in power. They think that he has made the middle class shrink at home and American leadership decline at abroad. Therefore, Wilsonism represented by Obama has to temporarily withdraw from the front stage. At the same time, Hamiltonians have to take a temporary stand because of the domestic people's dissatisfaction with their economic globalization policy. Together with Jeffersonians, they became the checks and balances and supervisors of Jacksonists. Jacksonism's policy towards China is obviously realistic. It is strictly guarded against militarily. It has not abandoned the "Asia-Pacific rebalancing strategy" of the Obama era, but also tried to make up for the insufficiency of the strategic funds so as to make the strategy come true. It implements the strategy of intimidation economically and demands a lot of price in order to take advantage of the local repayment of money.

Three Conclusions

Conclusion one

Throughout the past 45 years of Sino-US relations, we find that the contradiction between political system and ideology is a difficult knot, or even a dead knot, in Sino-US relations. Hamilton, Jefferson, Jackson and Wilson, the four

leading schools of foreign policy, are rooted in the unique political culture, historical tradition and democratic republican system of the United States. They firmly believe in the American beliefs centered on Protestant ideas, freedom, and equality, the rule of law, individualism and human rights. Although the first three schools are not as keen on exporting American values of democracy and freedom to the whole world as Wilsonianism, and even oppose and laugh at what the latter has done, the main reason is not that they do not believe in the value of democracy and freedom and do not sympathize with and support the cause of freedom and democracy of other peoples, but that they believe that the latter does harm to people's wealth and does nothing to help them. It is better to make America bigger and stronger economically, politically and militarily. It takes a good blacksmith to make good steel. If they do their job well, the United States will naturally become a model of democracy and a beacon of freedom. The role of example is very important, and the lighthouse will naturally illuminate others' road to freedom and democracy.

Why has the Taiwan issue been an insurmountable obstacle to Sino-US relations for 45 years? Because in the eyes of American foreign policy makers, Taiwan has always been an anti-Communist and a staunch ally of the United States in Asia during the Cold War. Although Taiwan was not a democratic system before the "lifting of martial law" in 1987, since the separation of Chiang Kai-shek from the Communist Party in 1927, the Kuomintang has approached the United States and started to build a democratic system. Fleeing to Taiwan after defeat, it was forced by the pressure of China to abandon democracy and impose martial law. But this is an expedient measure and a helpless move. It has always had the election of the "people's dynasty", a considerable degree of freedom of speech and a market economy. Once the time is ripe, it will be transformed into a democratic system. After Taiwan's transition to democracy in 1987, it became a reliable partner in the United States Democratic Alliance. Therefore, the four schools of American policy towards China believe that Taiwan cannot be abandoned. They even think that defending Taiwan is to safeguard their core interests. During Nixon's visit to China in 1972 and the signing of the Shanghai Communiqué between China and the United States, the United States was unwilling to abandon Taiwan despite the current enemy's urgent need for China's support. When China and the United States established diplomatic relations in 1979, the Soviet Union was aggressive and the United States was on the defensive, but would rather offend China than abandon Taiwan.

China and the United States officially established diplomatic relations on January 1, 1979. At the end of

February of the same year, members of Parliament proposed the Bill on Relations with Taiwan. The bill was passed by an overwhelming majority in March when both houses voted. The House of Representatives was 345:55. The Senate is 90:6. President Carter signed into law on April 10 for 42 days, a speed rarely seen in American history. The Taiwan Relations Act and President Reagan's "Six Guarantees" has become the cornerstone of US-Taiwan relations and a major obstacle to the sound development of Sino-US relations.

The differences between China and the United States on the South China Sea issue are also one of the difficult problems in Sino-US relations. Why has the United States repeatedly encouraged and supported relevant countries to make trouble against China on the South China Sea issue? In the final analysis, China is regarded as a hostile country in its essence. The underlying reason is the sharp opposition between social system and ideology. Another difficult knot in Sino-US relations is the DPRK nuclear issue. North Korea and the United States were bitter during the Cold War. North Korea is far away from the United States. Kim Il-sung wants to reunify North Korea without directly threatening the security of the United States. However, American policymakers, including the four schools mentioned above, feel threatened and fight against North Korea at all costs. Eisenhower even wants to use nuclear weapons. To put it bluntly, in the eyes of American policymakers, North Korea is the front position in the Communist camp headed by the Soviet Union. Although the Soviet Union has disintegrated, North Korea is still a socialist country and an enemy of the United States. For China, North Korea is a socialist comrade and comrade-in-arms. Therefore, the differences between China and the United States on the Korean issue have been difficult to eliminate for decades. In the future, China-US relations will still be hampered by a major problem, and slight carelessness will lead to conflicts between China and the United States.

Conclusion two

For more than 40 years, the smoothest development of Sino-US relations has been in the field of economy and trade. After normalization of Sino-US relations, China has developed rapidly in the U.S.-led economic system. Many scholars believe that China-US relations have not broken through for many years mainly because of the ballast stone of economic and trade relations. Many scholars believe that in the "golden decade" after the establishment of diplomatic relations between China and the United States, China and the United States are allies, and China is vigorously carrying out reform and opening up, starting to get rid of the Soviet model, start the reform of political and economic system, and begin the transition from planned economy to market economy. Of course, the United States is optimistic about its success and

naturally opens the green light in the field of economy and trade. But after the 1989 turmoil, the United States imposed comprehensive sanctions on China, and after the end of the cold war, China and the United States are no longer allies with each other, and may even become enemies again. But this did not affect the rapid development of Sino-US economic and trade relations from Clinton and Bush to Obama administration. The reason for this is that, apart from the fact that the United States wants to occupy the huge market of China, American policymakers have not changed the principles of engagement, cooperation, influence and change set by Clinton as President until Barack Obama as President.

Developing economic and trade relations with China are most in the interest of Hamiltonians, but the other three schools will not oppose it. In the eyes of the American elite, economic development is conducive to democratic transformation. American scholar Seymour Martin Lipset first put forward the viewpoint of "Economic Development Promotes Political Democracy" in 1959. After debating, supplementing and amending, this viewpoint has become the consensus of American political circles, but this consensus has changed by 2015. The dominant view is that economic development has not brought about democratic transformation, and the policy of "engagement, cooperation, influence and change" adopted by the United States for many years has failed. Therefore, it is necessary to crack down on China economically, although compromise has to be made for various reasons, which is also an expedient measure.

Conclusion three

Looking back at the history of American foreign relations, it is not difficult to find that when strong enemies surround, it is easy for the four mainstream schools of

American foreign policy to form a consensus, and Jacksonists charge ahead. Without the threat of a powerful enemy, the four schools would fall into quarrels and fail to reach consensus. Congress, the President and public opinion would be constrained each other, and the United States would not have a unified and strong foreign policy.

However, with the rise of Russia and China and the rise of terrorism, Jacksonism began to come to the fore, and the United States began to pursue the policy of containing China, Russia and combating terrorism. As Russia sent troops to Ukraine and took back Crimea, Russia-US relations deteriorated sharply. The U.S. policy towards Russia has a direct impact on the U.S. policy towards China. It seems to the United States that China is largely an ally of Russia. The closer relations between China and Russia will probably awaken the cold war memories of the four foreign policy schools in the United States and revive the cold war thinking in their minds. In other words, in their eyes, the alliance between China and Russia means the emergence of new Cold War opponents. For this reason, they are likely to abandon their quarrels, reach consensus, provoke a new round of arms race, and achieve the goal of bringing down the economy of China and Russia.

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A Comparative Study of Negation Structure in Shakespearean English and Present-day (Australian) English

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Abstract: Shakespearean English belongs to Early Modern English, which is somewhere between Middle English and Modern English. This means there are many similarities and differences with Present-day (Australian) English. From the perspective of syntax, the similarities and differences between Shakespearean English and Modern Australian English are evident. Negative words in sentences, negative sentence structures, negation scope of negative words and strengthening of negation are analysed and compared in this paper, so as to help readers better understand Shakespearean English.

Key words: Shakespearean English, Present-day (Australian) English, Negation Structure, Comparison

Introduction

William Shakespeare was an English writer from the late C16th to early C17th. Sato (2017) points out that readers may have faced many grammatical obstacles when they first read Shakespeare's original works, because English in Shakespeare's time changed from a medieval English constrained by inflections to a flexible and vocabulary enriched modern English. This author (2017) further states that Latin and French had a great influence as a source of change during the transition. At the same time, Shakespeare himself made many innovations and language creations in the usage of English (Sato, 2017). Furthermore, Elsternmann (2018) reports that there are some linguistic phenomena in Shakespearean English, which seem to be wrong according to the grammatical standards of present-day Australian English, but that they were not incorrect at that time. In fact, it is a residual factor of medieval English. Elsternmann (2018) explains that at this time English did not have strict requirements on word order or sentence structure. The author (2018) concludes that therefore grammar and syntactic standards were not prioritized above the need to meet the rhythm and rhyme of poetry, and to match the thought of lines and the change of emotion. However, this syntactical difference has caused difficulties for modern readers when they read Shakespeare's original works.

To take a specific instance, in Shakespeare's times, the

usage of negative words was flexible and varied, and so was the meaning (Yadomi, 2013). This means understanding the exact meaning of negative words and the scope of the negation is crucial to understanding the meaning of the original text. In other words, if the meaning and usage of negative words in Shakespeare's plays can be understood, compared and distinguished with the usage of negative words in present-day Australian English, it can better help modern readers to understand Shakespeare's original works and appreciate the essence of his masterpieces (Hope, 1994).

To facilitate better comprehension of Shakespeare, this essay intends to explore the usage of negative structures in Shakespearean English, and to compare them with the negative structures in present-day Australian English; finally the essay will summarize the pattern of this linguistic phenomena and its usage in order to help better understand the originals.

1. A Comparison of the Usage of Negative Words in Sentences

The foremost negative word in English is 'not'. Other negative words include 'no', 'never', 'nothing', 'none', 'neither', 'nor', 'without' and some derivatives that consist of a prefix or suffix with a negative meaning like 'dis-', 'un-', such as disadvantage and undone.

The meaning of 'not' in Shakespearean times is not much different from that in modern Australian times.

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However, the usage is slightly different, because in Shakespearean English ‘not’ can be placed before the verb, also after the verb, and used as a complement too (Rissanen, 1994), such as ‘Is smother’d in surmise; and nothing is But what is not.’ (*Macbeth*, 1960). This usage is not available in present-day Australian English. In addition, in Shakespearean English, ‘not’ can be placed after the object, especially when the object is a pronoun, such as ‘Hear it not, Duncan.’ (*Macbeth*, 1960). Furthermore, it should be noted that ‘not’ in Shakespearean English cannot be abbreviated as ‘n’t’, but the form of ‘n’t’ is not interchangeable with ‘not’ in modern Australian English (Abbott, 1874).

‘No’ is usually placed in front of nouns or adjectives in Shakespearean English, which is similar to the usage of present-day Australian English. The difference is that ‘no’ in Shakespearean English can sometimes replace ‘not’ (Abbott, 1874), such as ‘It is no vicious blot murder, or foulness / no unchaste action or dishonour’d step.’ (*King Lear*, 1965). ‘No’ here should be understood as ‘not’. Sometimes, ‘no’ also appears where any should be used in present-day Australian English (Bernard, 1970), such as ‘Yet do I hold it very stuff o’ th’ conscience / To do no contrived murder.’ (*Othello*, 1960).

‘Never’ can be translated as “not for a moment” in modern Australian English, which is similar to the meaning of ‘never’ in Shakespearean English. ‘Never’ can be used for emphasis in the sentence (Abbott, 1874). There are a lot of examples in Shakespearean English, such as ‘She that was ever fair and never proud / Ha tongue at will, and yet was never loud / Never lacked gold, and yet went never gay.’ (*Othello*, 1960). ‘Never’ sometimes can also replace ‘not’ in Shakespearean English, such as ‘Blessed fig’s end! The wine she drinks is made of grapes. If she had been blessed, she would never have loved the Moor.’ (*Othello*, 1960). ‘Never’ here should be understood as ‘not’.

‘Nothing’ is used in present-day Australian English for negative sentences, which is equivalent to ‘not anything’, indicating “there is nothing”, similar to the meaning of ‘nothing’ in Shakespearean English. The difference is that Shakespeare often uses concise language and flexibly uses ‘nothing’ to make it more meaningful (Rissanen, 1999), such as the dialogues between King Lear and his young daughter:

Cordelia.	Nothing, my lord
Lear.	Nothing?
Cordelia.	Nothing.
Lear.	<u>Nothing</u> will come of <u>nothing</u> .

Speak again. (*King Lear*, 1965).

The fore and after two ‘nothing’ in the last sentence refer to different meanings. The former refers to ‘nothing to obtain’, and the latter refers to ‘nothing to say’. Such flexible usage is rare in modern Australian times.

‘None’ can be used as an adjective or a pronoun of the predicative in Shakespearean English, such as ‘Thou shalt get kings, though thou be none.’ (*Macbeth*, 1960). ‘None’ sometimes can be substituted for ‘not’ in the sentence (Rissanen, 1999), such as ‘Unmerciful lady as you are, I’m none.’ (*King Lear*, 1965). Here ‘I’m none’ is equivalent to ‘I’m not a traitor’.

‘Neither’ and ‘nor’ often appear in present-day Australian English as the sentence pattern of “neither...nor ...”. At the same time, ‘neither’ can also be used alone in the declarative sentence or to answer the interrogative sentence (Iyeiri, 1999), such as ‘Neither of them will go to the theatre.’ or ‘—Who will go there with me? — Neither.’ In modern Australian English, the single ‘nor’ is used less often (Baker, 1966). According to Rissanen (1999), in Shakespearean English, on the contrary, the single ‘neither’ is used less often, while the single ‘nor’ is used everywhere. The author (1999) further states that when these two words are used alone, they express the meaning of “and not”. Cheshire (1999) points out that ‘nor’ is often used in the preceding clause where there has been a negative word such as ‘not’ or ‘no’. The conjunction and the negative word in the following clause are all played by ‘nor’, such as:

Seems, madam? Nay, it is. I know not “seems”,
 ’Tis not alone my inky cloak, good mother,
 Nor customary suits of solemn black,
Nor windy suspiration of forced breath,
 No, nor the fruitful river in the eye,
Nor the dejected havior of the visage
 Together with all forms, moods, shapes of grief,
 That can denote me truly. (*Hamlet*, 1980).

In the drama, *Macbeth*, the negative word ‘without’ appears repeatedly. Kiesling (2001) states that in present-day Australian English, ‘without’ is used as a preposition with a negative meaning, the basic meaning of which is “no.....”. In Shakespearean English, the usage of ‘without’ is flexible and the meaning changes with the context (Abbott, 1874), such as:

- (1) thou wouldst be great
 Art not without ambition; but without
 The illness should attend it. (*Macbeth*, 1960)
- (2) Things without remedy should be without regard.
 (*Macbeth*, 1960)
- (3) ’Tis better thee without than he within. (*Macbeth*, 1960)
- (4) Come in, without there! (*Macbeth*, 1960).

The usage of ‘without’ in the first example is similar to that in modern Australian times. In the second example, using two ‘without’ in one sentence is very concise and clever. In the third example, ‘without’ is in parallel with ‘within’, which makes the sentence symmetrical and

beautiful. In the fourth example, the person is omitted, and the meaning of ‘without’ cannot be understood as ‘no’, but should be understood as ‘outside’. The whole sentence should be understood as ‘Come in, whoever is outside!’

Above all, it should be underlined that to understand the specific meaning of a negative word in the specific context, it is necessary to relate it to the context in order to make an accurate judgment. This contextual clue will override the flexible use of the negation.

Finally, in addition, it is pertinent to mention there are also some words with negative meanings consisting of prefixes and suffixes, such as ‘So young, and so *untender?*’ (*King Lear*, 1965). and ‘By the name of most kind hostess; and shut up in *measureless* content.’ (*Macbeth*, 1960). These words can be inferred and understood according to the meaning of the root in accordance with the comprehension strategy of present-day Australian English.

More subtly, there are a small number of words in modern Australian English that contain incomplete negation,

such as ‘hardly’, ‘scarcely’, ‘seldom’ and so on. In Shakespearean English, there are also a few such words, such as ‘And *hardly* shall I carry out my side, / Her husband being alive.’ (*King Lear*, 1960). Here the meaning and usage of ‘hardly’ is similar to that of present-day Australian English.

2. A Comparison of Negative Sentence Structures

In present-day Australian English, the position of a negative word is relatively fixed due to the specific grammatical rules. However, according to Bernard (1970), in Shakespearean English, the position of negative words is changeable. It is worth noting that in Shakespearean times, auxiliary verbs had not been widely used, but there were also a small number of auxiliary verbs (Hiroshi, 2013). The following is a comparison of the negative sentence patterns in Shakespeare’s tragedy and those of present-day Australian English in the same sense:

Sentence structures	Shakespearean English	Present-day Australian English
S + Aux + N + V	I do not set my life at a pin’s fee. (<i>Hamlet</i> , 1980)	The same as Shakespearean English
N + S + V	Not Cassio killed (<i>Othello</i> , 1960)	Cassio isn’t killed!
Aux + N + S + V	Might not you / Transport her purposes by word? (<i>King Lear</i> , 1965)	Can you do not transport her purposes by word?
V + N + S / O	Fail not our feast (<i>Macbeth</i> , 1960)	Don’t fail our feast
(Aux) S + N + V	Did you not speak to it? (<i>Hamlet</i> , 1980)	Didn’t you speak to it?
N + V + O	Never to speak of this that you have heard (<i>Hamlet</i> , 1980)	Never speak of what you have heard
V + S + N + C	Found you no displeasure in him by word or countenance? (<i>King Lear</i> , 1965)	You didn’t find any displeasure in him by word or countenance, did you?
V + O + N	Let me not (<i>Othello</i> , 1960)	Don’t let me...

According to the above table, it can be seen that many negative sentence patterns in Shakespearean English are made in present-day Australian English by auxiliary verbs. Moreover, in present-day Australian English, the position of negative words in sentences is much more fixed. Next the effect of the change in the position of these negative words will be examined in regards to their effect on the meaning of the sentence.

3. A Comparison of Negation Scope of Negative Words

In present-day Australian English, the negative scope refers to the whole effect the negative has on the sentence from the beginning negative word to the end of the sentence. The expression of negative meaning is limited to the scope of negation, such as:

- (1) They are *not* students.
- (2) I have *never* been to Australia before.

- (3) I could *hardly* understand what she had said.
- (4) James saw *no* one in the room.

The negative meaning of these sentences begins with the appearance of negative words. The delimitation of negative scope of the negative sentence in Shakespearean English can be compared to the same as in present-day Australian English. Compare the following sentences of similar structures:

- (1) My father is *not* dead, for all your saying. (*Macbeth*, 1960)
- (2) My life I *never* held but as a pawn / To wage against thine enemies; (*King Lear*, 1965)
- (3) And *hardly* shall I carry my side, / Her husband being alive. (*King Lear*, 1965)
- (4) There is *no* other way: ’tis she must do’t. (*Othello*, 1960)

The negative scope in the first example sentence is similar to that in present-day Australian English. Inversion is

used in the second sentence, and with the usage of 'but', the meaning of the whole sentence becomes affirmative and not negative, which is also a difficult to read when reading the original. The usage of the latter two examples is similar to that in present-day Australian English.

In present-day Australian English, however, the delimitation of negative scope is anything but simple. This means that not all the negative meanings of sentences are from the beginning where negative words appear to the end of the sentence (Lambert, 2013). There are still many other negative scope phenomena in modern Australian English, which need specific comparative analysis. There are many sentence patterns in modern Australian English expressing partial negation. Please see the example below for illustration:

(1) I don't wholly agree with you.

I wholly don't agree with you.

(2) I don't really know what has happened.

I really don't know what has happened.

In both cases, it is the negation before or after the adverb that has a key effect on the meaning of the sentence. Placed before the adverb, the sentence becomes partial negation while placed after the adverb, the sentence is total negation. In contrast, no similar examples of collocation of negative words and adverbs are found in Shakespearean English.

In present-day Australian English, there are some compound sentences, the main clause of which is negative in form, but the subordinate clause of which is affirmative (Lambert, 2013). However, in the actual sense, it is opposite that is given: the main clause is affirmative while the subordinate clause is negative, such as:

(1) I don't think you are right.

Its actual meaning is 'I think you are not right.'

(2) He doesn't believe it is true.

Its actual meaning is 'He believes it is not true.'

This kind of sentence of negation transfer is often used to express a type of inference, opinion, or idea of the person represented by the subject of the sentence, and it adopts a euphemism to express a negative attitude towards a certain thing or event. In Shakespearean English, this kind of sentence pattern rarely exists. Instead, merely, negative words are put in subordinate clauses, such as 'I would fain think it were not.' (*King Lear*, 1965).

4. A Comparison of Strengthening of Negation

In English, the strengthening of negation is mainly achieved by repeating negative words and adopting double negative structure. In present-day Australian English, repeating negative words are common, and a double negative is used to achieve a positive purpose and to strengthen the tone (Baker, 1966). In Shakespearean English, there are also a large number of usages of repeating negative words.

Moreover, there is not only a double negative but also a triple negative phenomenon. Moreover, a double negative does not necessarily mean the expression of affirmation, but also the meaning of negation (Haebli & Haegeman, 1999). These phenomena of triple negation are used to strengthen the tone but the final expression is still negative. The following is an example of a classic repetitive usage:

(1) Never, never, never, never, never. (*King Lear*, 1965)

(2) Not a jot, not a jot. (*Othello*, 1960)

(3) No, no, no life! (*King Lear*, 1965)

(4) O, horror, horror, horror! (*Macbeth*, 1960)

To determine whether the double negation phenomenon in Shakespeare's tragedies is to express affirmative or negative meaning, the word should be specifically analyzed according to the specific context. Please see the example below:

(1) I can't wish the fault undone. (*King Lear*, 1965)

(2) To come betwixt our sentence and our power, Which nor our nature nor our place bear. (*King Lear*, 1965)

(3) All my reports go with the modest truth, Nor more, nor clipp'd, but so. (*King Lear*, 1965)

(4) You can't, if my heart were in your hand, Nor shall not, whilst 'tis in my custody. (*Othello*, 1960)

(5) O, horror, horror, horror! Tongue nor heart Can't conceive nor name thee! (*Macbeth*, 1960)

In the first example, the double negative expresses affirmative meaning, the same as modern Australian usage. In the second and third examples, the structure of two 'nor' is actually equal to the structure of 'neither... nor...' Therefore, it expresses the meaning of negation. Although double negatives are used in the fourth and fifth examples, they express negative meaning. In such a situation, it must be inferred and analyzed in combination with the context, and care should be taken, because the usage of negative words in Shakespearean English is varied and there is no fixed pattern to follow.

Conclusion

In conclusion, English in the time of Shakespeare was changing from Middle English of the medieval times to Modern English of the current day. As a result, it is difficult for modern readers to immediately understand the original works of Shakespeare if they do not understand the changes the language was undergoing at that time. This essay focuses on the negative grammatical structures, referencing examples from the four great tragedies of Shakespeare. The essay analyzes the similarities and differences of negative words in Shakespearean English and modern Australian English by sentence types, scope of negation, and strengthening of negation. It is hoped this will offer help to the modern readers to better understand and appreciate the original

works of Shakespeare.

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The relationship between language learning strategies and gender: a study of ESL learners in China

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Abstract: Gender differences in LLS (language learning strategy) use has been studied for years. However, there is still no consistency over gender impact on LLS use. The aim of this study is to investigate whether or not gender differences in LLS use exist among ESL (English as a second language) learners in China.

Key words: gender difference; LLS use; ESL learner

1. Introduction

Although sharing similar learning environment, some ESL learners can acquire English language more efficiently than others. To some extent, the success of a good language learner is ascribed to LLS use (Grenfell and Macaro, 2007; Naiman et al., 1996; Rubin, 1975; Stern, 1975). Hence how learners actually use LLSs is informative to the improvement of ESL acquisition and instruction (Williams and Burden, 1997). As one of many factors, such as age, education background, and motivation (Macaro, 2001; O'Malley & Chamot, 1990; Rubin, 1975), gender could influence LLS use because of learners' differences in biology, psychology, and socio-culture (Zeynali, 2012).

2. Literature review

Generally speaking, there are two voices about the correlation between gender and LLS use: some studies support gender differences in LLS use (Dreyer & Oxford, 1996; Ehrman & Oxford 1989; Oxford & Burry-Stock, 1995; Polizer, 1983; Peacock & Ho, 2003; Salahshour, Sharifi & Salahshour, 2013; Yilmaz, 2010), while others show no significant gender differences (Griffiths, 2003; Nisbet, Tindall & Arroyo, 2005). In addition, most objects recruited in related studies are English-major students, while students from other majors are less concerned. Furthermore, apart from gender, many studies involve two or more factors. In this case, it is relatively difficult to test exact gender differences in LLS use because of influence from other variables. This study, focusing on college ESL learners in China, tries to examine gender differences in LLS use.

3. Methodology

3.1 Participants

Snowball sampling (Browne, 2005) is used to recruit participants: 25 male and 25 female students in northwest China. All of them are undergraduates majoring in ideological and political education at the same university, ranging from 20 to 23 years old. On top of that, they possess similar levels in English language proficiency (with the grades from 400 to 500 in the College English Test Band 4).

3.2 Instruments and procedures

The research starts with a structured questionnaire for all participants, then followed by a semi-structured interview conducted among 6 of them (3 males and 3 females) at random. The Strategy Inventory for Language Learning (SILL) Version 7.0 (ESL/EFL) (50 items) (Oxford, 1990) is selected as the basic version of questionnaire. In order to guarantee research reliability and feasibility, a pilot study is administered ahead with two randomly selected participants (1 male and 1 female).

3.3 Ethical consideration

Before the research, all participants are informed of study purpose. Besides this, they need to fill out a consent form. During the research, all participants are allowed to withdraw at any time, and all the data will be kept confidential.

4. Results and discussion

4.1 Quantitative results

The mean and standard deviation in overall LLS use are compared between male and female participants. Figure 1 indicates that male participants ($M=2.84$;

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SD=0.75) use LLSs more frequently than female (M=2.68; SD=0.54). However, Figure 2 proves no statistically significant gender difference in LLS use (Z=-.621; p=0.535). Generally speaking, the integral frequency in

LLS use among Chinese college students is at medium level, which needs to be strengthened further through proper guidance and practice.

Figure 1. The gender difference in overall strategy use

	Sex	Statistic	Std. Error
Overall strategy use	0 Male	Mean	2.8352
		Std. Deviation	.74937
	1 Female	Mean	2.6760
		Std. Deviation	.53579

Figure 2. Overall strategy use - Mann-Whitney Test

	Overall strategy use
Mann-Whitney U	280.500
Wilcoxon W	605.500
Z	-.621
Asymp. Sig. (2-tailed)	.535

4.2 Qualitative results

Among the six strategy categories, memory strategies, cognitive strategies, compensation strategies and metacognitive strategies are used more frequently than affective strategies and social strategies, generally in line with quantitative results, which is possibly due to relatively rigid language learning and teaching patterns and/or limited language learning resources. The interview results, however, show slight gender difference in LLS use. In terms of memory strategies, both male and female students would use roots to facilitate vocabulary memory, whereas females are more able to take full advantage of phonology. As to social strategies, only one male student

mentions “social strategies are very important”, but generally he does not use them because of low self-confidence and few opportunities to experience western culture. In this case, universities could provide more opportunities of international exchange, such as study abroad programs, so that they could build up language confidence and gain more awareness in western culture. On top of that, only one female student tries to “relax and encourage” herself in English learning process. Most students paid little attention to their mental state during study. On this occasion, after-class workshops refer to learning psychology could be helpful to form self-consciousness of their emotion state.

Figure 3. Interview data

Will you use memory strategies?	Male interviewee A: I would remember words based on their roots.
	Male interviewee B: I often do periodic review.
	Male interviewee C: I would remember words repeatedly and make use of roots.
	Female interviewee A: I would use phonology to facilitate vocabulary memory.
	Female interviewee B: I would enlarge my vocabulary by roots and affixes and use phonology and synonyms to facilitate vocabulary memory.
	Female interviewee C: I would do periodic review.
Will you use cognitive strategies?	Male interviewee A: I would enhance my practicing in different ways, take notes and summarise.
	Male interviewee B: I would definitely practice. I often take notes and highlight main points.
	Male interviewee C: I think it is important to find the main points.
	Female interviewee A: I would practice repeatedly, take notes, summarise and highlight main points.
	Female interviewee B: I would practice and take notes.
	Female interviewee C: I would practice, analyse and highlight main points.
Will you use compensation strategies when you	Male interviewee A: I use synonyms to explain.
	Male interviewee B: I prefer common expressions.
	Male interviewee C: I would use another expression.

have limitations in speaking and writing?	Female interviewee A: I use what I know to express.
	Female interviewee B: I use synonyms.
	Female interviewee C: I guess meaning and use synonyms.
Will you use metacognitive strategies?	Male interviewee A: I would plan learning.
	Male interviewee B: I would plan and self-evaluate.
	Male interviewee C: I rarely use.
	Female interviewee A: I plan my learning. Female interviewee B: I would centre on listening because of exams. Female interviewee C: I do plan, self-evaluate, and centre my learning.
Will you use affective strategies?	Male interviewee A: I do. Male interviewee B: I don't. Male interviewee C: I watch movies sometime when I am tried. Female interviewee A: I relax and encourage myself. Female interviewee B: I rarely use them. Female interviewee C: I rarely use them.
	Male interviewee A: I do. Male interviewee B: I would communicate with others.
	Will you use social strategies? Male interviewee C: Social strategies are very important, but I barely use them. I am not confident to communicate in English. And I do not have the opportunities to know about the real western culture. Female interviewee A: I randomly use them. Female interviewee B: I do. Female interviewee C: I do.

5. Conclusion

Based on the results and discussion above, students could be more aware of their status in LLS use and take proper actions to reinforce their LLS system (Rahimi and Katal, 2012; Saricoban, 2015). However, because of limited resource and time, only 50 participants were recruited, and large-scale sample would generate more objective and representative results. Moreover, in order to achieve a more comprehensive view, further research should be carried out from not only students' perspective but also teachers'. Furthermore, classroom observation could be combined with questionnaire and interview to enrich data.

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A Philosopher on Death: A Study of Initiation Theme in *Hamlet*

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Abstract: William Shakespeare was an English poet, playwright and actor, widely regarded as both the greatest writer in the English language and the world's pre-eminent dramatist. The story of Shakespeare's *Hamlet* was derived from the story of Amlethus's revenge for his father in Denmark in the ninth century, which was written by the Danish historian Saxo Grammaticus. The talented Shakespeare transformed this legendary tale into a vivid, thoughtful medieval revenge story full of blood and terror, which reflects the face of the time and is admired throughout the world. As the play goes on, Hamlet has also grown up from a young man with many personality defects to a mature man who has done his mission finally, which therefore, this play can be recognized as an initiation play. To interpret the initiation theme in the play, this paper has used Rui Yuping's theory structure. According to her, a young protagonist would first experience some growing pains and then lead on the journey of his growing. After an awakening self and epiphany, he would not feel confused anymore thus would become an adult successfully. This paper has analyzed these three major parts of the growing progress of Hamlet. "Mentor and partner" are also terminologies created by Rui. This paper has also analyzed the negative mentor Old Hamlet and the partner Horatio. After a review of literature home and abroad, only three articles in China have mentioned *Hamlet*'s initiation theme, and only one of them has mentioned Rui Yuping's theory without using the theory structure. Considering this, using Rui Yuping's theory structure to interpret *Hamlet*'s initiation theme is relatively new in the interpretation of *Hamlet*. Hope this paper could provide a new perspective for interpreting *Hamlet*.

Key words: Initiation Theme, *Hamlet*, William Shakespeare, Rui Yuping

Introduction

William Shakespeare (23 April 1564–23 April 1616) was an English poet, playwright and actor, widely regarded as both the greatest writer in the English language and the world's pre-eminent dramatist (Wells 399). The famous German author Johann Wolfgang von Goethe once commented on Shakespeare: "Shakespeare is a great psychologist. From his plays, we can learn the thoughts and feelings of all mankind. He has depicted all the tendencies of human nature, both in height and depth" (Qtd in Zhang 2).

The Tragedy of Hamlet, Prince of Denmark, often shortened to *Hamlet*, is a play of him written between 1599 and 1602. The plot was set in Denmark, and the plot is the revenge of Prince Hamlet for his father Old Hamlet on his uncle, the new king Claudius. Claudius had murdered his own brother and seized the throne, and he also married the mother of Hamlet, Ophelia.

The play has Hamlet as the protagonist who had some personality defects and experienced blows from life and finally achieved his mission and became mature. With his

growing up, a gradually change of mind can be seen from his narration. The style of the play shares some similarities with initiation stories. For this reason, the growth or initiation theme of this play is worthy to study. In China, the first systematic book interpreting this type of stories is Rui Yuping's *A Study of American Initiation Stories*. In this book, she puts forward the structure of initiation stories and the idea of "mentor" and "partner". According to Rui's idea to interpret this play, the conclusion can be drawn that Hamlet in the novel has lost his childhood and identity at first and has gotten his epiphany at last. On his journey of growing, Old Hamlet is the negative mentor and Horatio is his partner. He uses antic disposition to fight back the king, but always with a rational mind.

After a review of literature, only three articles in China have mentioned *Hamlet*'s initiation theme, and only one of them has mentioned Rui Yuping's theory without using the theory structure which is Yang Bowen's "Breaking Through the Purgatory of Immortality: Hamlet's Growth." When searching abroad with the key words "*Hamlet*" and "initiation", none articles have been found. Considering this, using Rui Yuping's theory structure to interpret Hamlet's

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initiation theme is relatively new in the interpretation of *Hamlet*. Hope this paper could provide a new perspective for interpreting *Hamlet*.

1. Growing Pains: Identity Crisis

In initiation stories, the protagonist would first experience some growing pains that can't be solved by himself. With so many tragedies to face all by himself as the death of his admired father and the remarriage of his beloved mother, Hamlet suffered a heavy blow. He fell into "a kind of self-identity confusion, which is the confusion of the reality and the confusion of identity he cannot extricate himself" (Xiao 59).

1.1 *The Lost Childhood*

In history, Old Hamlet was a belligerent soldier. He spent most of his life in the battle fields. People remembered him because of his warlike image. When Horatio and Marcellus first saw his ghost, they said "Our last king... was... dared to the combat in which our valiant Hamlet—for so this side of our known world esteemed him—did slay this Fortinbras" (I, I, 1210)^[1]. Hamlet spent little time with both his parents in Elsinore also. The resources found in *Hamlet* about Hamlet's childhood are very rare. He just came back from Wittenberg, Germany, and it was his uncle and his mom who said "I pray thee, stay with us; go not to Wittenberg" (I, ii, 1212) that made him stay there, otherwise he would come back to Wittenberg to study his favorite humanism thoughts again.

John Updike's *Gertrude and Claudius* has depicted the story before the Shakespearean play. In the novel, Hamlet spent most of his time offstage, as it were: a young child shunted off to nursemaids, a boy left to mischief with the disorderly Yorick, or a seemingly perpetual student living in Wittenberg, Germany. He never speaks for himself, and is seen very briefly only twice. His childhood has been lost, and according to Freudian theory, a lost childhood could lead to a series of problems for a child. Many scholars have interpreted that Hamlet has Oedipus Complex or even Electra Complex, but that means he has been exposed to a parent much more than to another parent. Considering his lost childhood, which means he has been isolated from both of his parents, it is impossible for him to have these complexes. To support a relatively new idea, Hamlet's problem is that he is too effeminate.

^[1] The book of the original text citation of *Hamlet* (Shakespeare, William. *The Complete Works of William Shakespeare*. Shanghai: World Publishing Incorporation, 2014) doesn't provide the line number of the text. Here in this paper, page numbers of the original text have been used instead of line numbers.

In sixteenth Century, England was paternal and patriarchal. Women should obey their fathers and elder brothers before they got married, and they should obey their husbands' arrangement after they got married. Mothers could take care of their children when their children were young, and they should quit when their children were growing up. Instead, fathers should manage and educate their children (Wang 156). This patriarchal society had a strict hierarchy, and there were extreme inequalities between different classes, between children and parents, and between men and women. Just because mothers quit so early while their children growing up, their children lack the help of maternal love to communicate with their parents more deeply. In this system, men could not get rid of their "male consciousness anxiety" for their lifetime. They could not express their feelings freely, otherwise they would be considered feminine. They had to always cover up their feminine thoughts and deeds.

Publicly, Hamlet was a successful man, but privately, which can be proved in most of his soliloquies, he was very effeminate. Hamlet is known for his "melancholy" temperament, which in the Renaissance was considered the "feminine temperament" of the male body. In addition, Hamlet is considered to have many other characteristics in line with his "feminine" tendency, such as sentimentality, hesitation, acrimony, excessive caution and so on. "Several of the most brilliant performances of the part in our time [Hamlet has been played] by women, and the issue of Hamlet's 'femininity' has fascinated artists in all media" (Howard 1). Just these feminine traits of him caused his irresolute and confused mind and all his tragedy.

1.2 *The Lost Identity*

Hamlet has lost his childhood which caused some personality defects of him. And in the beginning of the play, he was put into successive tragedies: the death of his father and the remarriage of his mother. These blows had put Hamlet in some fragmented and cruel pains of growing. He always wore his "inky cloak" to resist the unacceptable reality of his own, and he enclosed his heart, which was painfully displaced. Hamlet as a son had lost his original human order, home. His concept of home collapsed with the death of his father and his mother's remarriage. Hamlet as a prince, his natural right to inherit as the king had also been challenged.

The king had said to Hamlet "we pray you, throw to earth this unprevailing woe, and think of us as of a father: for let the world take note, you are the most immediate to our throne" (I, ii, 1212). It was an active of conferring power from a higher position, an exchange of hereditary notion of the throne by the new king Claudius by grandiose terms. This is "a coverage of the discourse of power of the past which just like Claudius' replacement and coverage of the term

'father'" (Xiao 59). The distortion of the reality means the deprivation of the past. And this deprivation has plunged Hamlet into a confusion of self-identity, unable to extricate himself from the confusion of reality and identity.

What made him more confused was the remarriage of his mother. His mother was unable to help him identify himself correctly, and she had left and abandoned Hamlet during the sudden outbreak, becoming the "aunt" in the sense of the patriarchal family tree. The confusion and complexity of the order led to Hamlet's doubts and anxieties about the basic moral in human relations, and he uttered a depressing and heartbreaking cry: "O, most wicked speed, to post with such dexterity to incestuous sheet!" (I, ii, 1213). He doubted and sighed, "a little more than kin, and less than kind" (I, ii, 1212). Young Hamlet reflected on the estranged and negated kinship. He could not grasp and understand the false feelings and power of the world. He became powerless and could only sigh with intuitive bewilderment and hatred: "How weary, stale, flat and unprofitable, seem to me all the uses of this world" (I, ii, 1213). In fact, this soliloquy, with a sense of abomination and helplessness, is precisely the sad, lost and profound perplexed sense which was caused because Hamlet was unable to perceive the world before him. This sentence is his cry for his lost identity.

2. The Journey of Growing

According to Rui Yuping's theory about initiation stories, growing is a journey of challenges. Hamlet was a happy prince who experienced a sense of loss. The event that marks the beginning of his journey is his first meeting of the ghost of Old Hamlet. On Hamlet's journey of growing, for most of the time he knew what he was going to do, but at the same time, he was influenced by Old Hamlet the most who can be recognized as his mentor. And he also had one partner Horatio. He used some ways to fight back the King, such as "bearing strange or odd" to "put on an antic disposition".

2.1 Antic Disposition with a Rational Mind

Scholars over his "madness" always have two opinions. Some recognize him as really mad while some recognize him as disguised mad. In fact, through the whole play, Hamlet always had a rational mind without any sign of real madness. Hamlet hated hypocritical disguise. When he saw his mom showing little sympathy for his dead father, he said "... nor the dejected behavior of the visage, together with all forms, moods, shapes of grief, that can denote my truly: these indeed seem, for they are actions that a man might play" (I, ii, 1212). Here he showed his disdain towards the outside forms and tended to hide his inside woe. This can explain why he wanted to bear himself with strange and odd behaviors "as I perchance hereafter shall think meet to put an antic disposition on" (I, v, 1219) as a way to deal with the bad

situation he was in. He was sure that no matter in any forms, he could still keep his rational mind and find out the truth.

Ever since Hamlet begun his journey of growing which was when he had accepted the task of revenging for his father, he had decided to use the disguise of madness to avoid the fate of a definite death for knowing the truth. And then the plot development is always around his "madness". Polonius used various ways to explore the cause of his madness; Hamlet designed a "play-within-a-play" to sound out whether the story told by the ghost was true or not; Claudius perceived that Hamlet perhaps was pretending to be insane to kill him and get revenge; Hamlet was sent away because of "madness" and finally escaped to complete his revenge and died himself. To sum up, in Hamlet's journey of growing, Hamlet used "madness" and successfully evaded many political persecutions and finally completed his revenge plan.

And at the same time, Shakespeare expressed his ultimate questioning of human destiny by means of Hamlet's crazy words, and pushed the tragedy to a philosophical level of a torturing human destiny. The most famous narrative is Hamlet's soliloquy about survival or destruction. It is the irreconcilable contradiction between a noble hero of humanistic ideals and the dark and ugly reality. Facing with such struggles and choices, he was using such questions to approach the real world and torture his soul to search for the meaning of living. The ultimate questioning of the value of life is the dialogue between the clown and Hamlet in the cemetery of Ophelia in Act V, Scene I. Hamlet's language seems to be crazy, illogical, and full of leaps and bounds, but behind these words is his reflection on the value of life. To sum up, Hamlet was never mad and always had a rational mind. He just used the "madness" as his weapon on his journey of growing.

2.2 Mentor

According to Rui Yuping, there are three kinds of mentors, which are the positive mentor, the natural mentor and the negative mentor. Hamlet was very obstinate. In the whole play, he listened to few people's opinions except Old Hamlet's.

Old Hamlet is the negative mentor. According to Rui, there are three kinds of negative mentors. First is the one who leads the protagonist to the wrong way of life. The second is the one who provide an opposite model. In comparison with "bad", "good" has been clearly defined. The third one is like Satan who leads the youth to wisdom while losing their innocence and happiness (Rui 135). Old Hamlet is just like the third one of the negative mentors. He not only led Hamlet trapped in an infinite admiration towards him, but also led him realizing the cruel truth behind scene and going on a journey of death later.

First is the negative influence of a strong admiration

towards Old Hamlet. When he first mentioned his dead father to Horatio, he said: “he was a man, take him for all in all, I shall not loop upon his like again” (I, ii, 1213). Is Old Hamlet really that great? The only description about him is about his warrior deeds. When the ghost came out, Horatio recognized him by his “fair and warlike form” and recalled his deeds of combating the ambitious Norway and smiting the sledded Polacks on the ice. The only image of him is a cruel, bloody and warlike soldier. Is the King really that bad? As the most loyal admirer of Old Hamlet, the prince Hamlet looked at the world almost the same way as his father did. He was blinded by his father. For this reason, in his mind, the differences between his father and uncle was like the differences between “Hyperion” and “satyr”, and the behavior of his mother was so unreasonable and abhorrent that he uttered the famous exclamation: “Frailty, your name is a woman!” (I, ii, 1213). If he first bore these very subjective ideas in his mind, he could never get a fair and just result.

Second is the negative influence on a journey of death. The appearance of the ghost makes moral sense a cruel burden and an inevitable fate. But in Christian thought, revenge is also a contradictory question. In the Bible, there is a saying: “Do not take revenge, my dear friends, but leave room for God’s wrath, for it is written: ‘It is mine to avenge; I will repay,’ says the Lord” (Romans 12:19). This shows that in Christianity, personal revenge is forbidden, but God’s revenge is acceptable. “On the one hand, it explicitly condemns personal revenge because it takes advantage of God’s privilege. On the other hand, it affirms the will of the false God and the vengeance of the public or the law which embodies the authority of God” (Geng 130). The appearance of the ghost makes the simple personal revenge an authorized one. Hamlet was forced to take and finish it, which enhanced the tragic theme of the play and would surely lead to his death. When considering the initiation theme of the play, it is a negative influence on his journey of growing.

2.3 Partner

In every initiation story, there must be a partner for the protagonist. According to Rui, humans are social and everyone needs a partner. Partner in initiation stories shows a deep desire for everyone—people all aspire to have an equal, loyal and friendly partner with them (Rui 143). Horatio can be recognized as Hamlet’s partner. He had no royal title, just “friend to Hamlet”. Grown up in a royal family, Hamlet needed a partner more like Horatio whom he could talk his heart out to without fear of royal schemes against each other that he was so familiar with.

During Hamlet’s study in Wittenberg, he also had Rosencrantz and Guildenstern as his partners. They were “being of so young days brought up with him, and sith so

neighbored to his youth and humor” (II, ii, 1221), but in their pursuit of high officials and salaries, “they were willing to be accomplices, cheaters who covered up their interests in the name of loyalty, and traitors among courtiers” (Meng 237). When Hamlet asked their intention “by the rights of our friendship, by the consonance of our youth, by the obligation of our ever-preserved love”, they had their last conscience and answered the truth: “My lord, we were sent for” (II, ii, 1225). After that, Hamlet realized their ugly images and they were not his partners anymore. Their allegiance to the King became apparent as the conflicts between Hamlet and the king intensified and became conspicuous.

Horatio was also Hamlet’s schoolmate in Wittenberg. They accepted the same humanism education, and became true friends later. He embodies the hope of the protagonist and becomes a survivor of the tragedy. In the second scene of Act I, Horatio told Hamlet about the ghost. In the second scene of Act III, Hamlet asked Horatio to observe his uncle, and made the comment that “Horatio, thou art e’en as just a man as e’er my conversation coped withal” (III, ii, 1231). When Hamlet encountered pirates on the sea, he wrote Horatio a letter and asked him to meet him after sending a letter to the king. He was also a good listener who had listened to Hamlet’s narration of all kinds. In Act V, Scene I, when Hamlet was talking about life and death, scolding corrupted officials, and making fun of jester Yorick’s skeleton, Horatio didn’t make any comment and only said “It might, my lord”, “Ay, my lord”, “Not a jot more, my lord”, etc. In Act V, Scene II, when Hamlet was relating the experience on the sea, Horatio only answered “Is’t possible?”, “I beseech you”, “How was this sealed”, etc.

To sum up, Horatio would sometimes echo or ask on Hamlet’s decisions, but seldom make comment. This kind of character of him had aroused Hamlet’s affection and trust. After Hamlet died, he accepted the mission of telling the truth of the struggle to the world. He was the man who smuggled secrets into the future. “The secrets he holds, as opposed to the future, make him not only a disseminator, but also a prophet” (Zang 8). In Hamlet’s journey of growing, Horatio became a historical witness at some historic moment of Hamlet as his sincere partner.

3. Subversion: The Awakening of Self

Looking at the plot development of the whole play, the life story of Hamlet can be summarized as which Hamlet was a happy prince; Hamlet was blown down by his father’s death and his mother’s remarriage; Hamlet came into confusion; Hamlet awakened himself; Hamlet got epiphany and finally died. On his way of growing, he hesitated so many times over his motives and thus wasted some good chance.

3.1 *Confusion and Self-Awakening*

Why did Hamlet continue to delay his revenge after knowing the truth of his father's murder? It is just because he was so disappointed about the whole society and was confused of what he could do. When he met the ghost, he commented "there's ne'er a villain dwelling in all Denmark but he's an arrant knave" (I, v, 1218). When he saw his former partner Rosencrantz and Guildenstern betrayed him, he was even more disappointed, and said "Denmark's a prison. The world is a goodly one; in which there are many confines, wards and dungeons, Denmark being one o' the worst" (II, ii, 1224). He knew he was not Hercules. He was mentally and psychologically unprepared for the heavy task of revenge, but the weak and feeble young man had a great historical mission to shoulder: "the time is out of joint: O cursed spite, that ever I was born to set it right!" (I, v, 1219). He had a confused mind of what he could do and what he must do. He often swayed between the two, existence or destruction, and experienced hardships in his heart. Finally, he made the most famous soliloquy to ponder painfully the meaning of life: "to be, or not to be: that is the question" (III, I, 1229). This shows the climate of his confusion. In his confusion, he wasted the best chance of revenge. Even the ghost reappeared, and said "this visitation is but to whet thy almost blunted purpose" (III, iv, 1238) to let him be clear-minded.

His "dull revenge" finally was stimulated by young Fortinbras and his army. "Witness this army of such mass and charge led by a delicate and tender prince, whose spirit with divine ambition puffed makes mouths at the invisible event". Hamlet was deeply touched by their defiance and daring deeds. For a barren land "which is not tomb enough and continent to hide the slain", the soldiers fought with their flesh and blood, to challenge fate, death, and danger, and to fight ferociously for honor. He was deeply touched by their courageous, daring and aggressive behavior. He began to blame himself for his cowardice, and he made his determination to bravely face the revenge. Then he cried out finally "O, from this time forth, my thoughts be bloody, or be nothing worth!" (IV, iv, 1242). This is an evidence of his self-awakening.

3.2 *Epiphany*

The state of self-awakening once begins, the protagonist would clearly feel the pressure from life. When facing this pressure, he would feel determined. In this critical state, some people would fall into ruin, and some people would experience something and finally get epiphany and become an adult successfully (Rui 85). Hamlet in the play belongs to the second kind. The event that happened at the churchyard has helped to bring about Hamlet's epiphany.

Hamlet had a conversation with the two gravediggers in

the churchyard, and the skeleton of Yorick made him think a lot. Celebrities in history, like Alexander the Great and Caesar, were brilliant and magnificent, but where are they now? "Alexander died, Alexander was buried, Alexander returned into dust", "Imperious Caesar, dead and turned to clay, might stop a hole to keep the wind away" (V, i, 1250). It seems that everything has long been doomed. Hamlet made a qualitative leap in his mind. Either to be brave enough to fight, or to drag out an ignoble existence, the result is both to die, so why not fight vigorously and leave a lasting name?

Then he had his first encounter with Laertes. It has been discussed before that Hamlet had some feminine traits such as sentimentality, hesitation, acrimony, excessive caution and so on. He admitted himself that he loved Ophelia before, but he was inconsistent to his love. His wicked tongue is the direct cause of Ophelia's death. He was accused of "lack of humanity" and "despicability" because "no man with noble qualities would insult women so dirtily in any case" (Howard 22). But Hamlet's attitude towards living and dying Ophelia was totally different. Hamlet tried his best to humiliate Ophelia before she died, but he completely changed his attitude after her death. In the first scene of Act V, he jumped into Ophelia's tomb and made an impressive "declaration of love": "I loved Ophelia: forty thousand brothers could not, with all their quantity of love, make up my sum" (V, i, 1251).

After the churchyard event, Hamlet had come to the world with a completely new look. He got his epiphany in the churchyard after these events. After his epiphany, he became firm, steady, fearless and extremely charismatic. After all his spiritual ordeal, Hamlet became a mature hero, and he needed the last hard test to prove to the world that he was worthy of the title of a hero. In his final duel with Laertes, he showed his magnanimity, courage, witness and decisiveness. He sent the wicked king Claudius to death, revenged for his father and the upheld justice.

Conclusion

The initiation theme in *Hamlet* is very typical. This is a renaissance play describing the growth of the protagonist. In the process of understanding the society and individual socialization, the protagonist would experience a spiritual ordeal. Children are free from worries in their fairy tale world created by their parents and society. After the children enter their puberty, they begin to either become dissatisfied with their lives which are full of cares thus become ordinary without change, or they become doubtful of the rationality of the real life because of a sudden event. They must leave the present way of life and living environment in order to create a sense of distance, so that they can understand their habitual way of life and way of thinking. But once they leave the nurturing environment, they would immediately feel the

pressure of survival. When facing this pressure, they would feel determined. In this critical state, some people would fall into ruin, and some people would experience something and finally get epiphany and become an adult successfully (Rui 85). In this play, Hamlet has gone through this process. Shakespeare not only focuses on the external perspective of the subject and society, but also on the internal perspective of life experience, telling a story about his growth. The protagonist Hamlet breaks through the limitation of the view of life and death, facing death calmly, and gives the equal balance between life and death. For life, he chose to face rather than escape, and was always ready to duel for honor. Eventually he died in a carefully arranged plot which was dishonor. Faced with such a powerful social evil force, he only relied on his individual strength to try to save the society, which would inevitably bring misfortune to himself. But it cannot be denied that Hamlet had achieved self-redemption and growth with his final action and thought successfully.

Hamlet as a great tragedy, is still of great guiding significance to the initiation of the mind and the enlightenment education for teenagers and even adults.

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The Necessity of Strengthening Ideological Governance in the New Media Era

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Abstract: Strengthening ideological governance in the new media era is not only a summary of the history of the Party, but also an important measure for the development of the Party and the state based on practical problems. It is also a unity of history and theory, practice and dialogue, and is of great significance for the new development of socialism with Chinese characteristics in the new era.

Key words: New Media Era, Communist Party of China, Ideological Governance

Introduction

Since the Eighteenth National Congress of the Communist Party of China, the Party Central Committee with Comrade Xi Jinping as its core has attached great importance to ideological governance. With its keen insight, profound thinking and effective innovation, it has fundamentally reversed the passive situation of ideological governance and fundamentally consolidated and developed socialist ideology. With the rapid development of new media, profound changes have taken place in the public opinion environment, media pattern, communication mode and so on. We need to think deeply about the historical logic, theoretical logic, era logic and practical logic of ideological governance in the new media era from various angles, so as to promote the integrated development in the new era and comprehensively promote ideological governance.

1. It is the Party's historical tradition to attach importance to and give full play to the ideological function of the media

The ideological governance of the Communist Party of China runs through the whole process of the Party's revolution, construction and reform. It is the basic aspect and important guarantee for the Party to gain state power, consolidate its ruling position and enhance its ruling ability. At the beginning of the founding of the Party, the Central Committee of the Party set up a special ideological propaganda organization, through the media to fully carry

out various cultural and artistic education activities, and constantly promote the development of Marxist ideology in China's society. During the ruling period of the CPC, more than 30 newspapers and periodicals were founded successively, which not only broke the situation that the Kuomintang monopolized public opinion by one party, won the position of public opinion for the Marxist ideology, but also promoted national liberation and national independence. After the founding of the People's Republic of China, on the one hand, the Party banned all kinds of organizations and publications disseminating reactionary ideas according to law and strengthened the leadership of the Party in media work; on the other hand, it vigorously carried out Marxist learning and education activities throughout the Party and the whole country, giving full play to the role of the Party's media in propaganda and guidance. Since the reform and opening-up, the Party's ideological governance has continued to advance. The ideological function of media pays more attention to the influx of foreign cultural thoughts under the conditions of opening to the outside world and pays more attention to the new features under the conditions of the Internet. Since the Eighteenth National Congress of the CPC, the CPC Central Committee, with Comrade Xi Jinping as its core, has attached great importance to the ideological work of the Party and pointed out that "ideological work is an extremely important work of the Party, and it is a work for the state and the nation."^[1] Through various ways, the Party Central Committee strives to do a good job of ideological governance in the new era. In the era of increasingly fierce

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ideological discourse, it constantly demonstrates the theoretical and practical vitality of Marxist ideology.

In the context of historical development, it is the fine tradition of the Communist Party of China to attach importance to and give full play to the ideological function of the media. It is an important component of the construction of Marxist ideology, and a summary of the correct experience and laws of the construction of the Marxist ruling party. In the new era, we should push forward the ideological governance of the Party and make greater achievements in the process of reform.

2. The Theoretical Needs of Actively Promoting the Sinicization of Marxism

We should always adhere to the leadership of the Communist Party of China, constantly improve the way of propaganda and management of the media, and earnestly enhance the appeal of media ideological dissemination. The root of this is the theoretical demand of Sinicization of Marxism. In their time, Marx and Engels attached great importance to the important role of books, newspapers and other carriers in criticizing capitalism, disseminating Marxism, guiding the workers' movement and promoting the socialist revolution. They emphasized that "political freedom, the right of assembly and association and the freedom of publication are our weapons."^[2] In fact, in the process of disseminating Marxism, Marxist writers pay a lot of attention to promoting the development of Marxism by relying on various media. In the process of propaganda and dissemination of Marxist theory, according to their own times and national conditions, they innovate the propaganda media and content as much as possible, so as to make Marxism glow vigorously in the world. The process of ideological governance of the Communist Party of China is actually an organic part of the Sinicization of Marxism. It is an important condition and way for the development of Marxist theory in the new era to continuously promote ideological governance in the media reform. General Secretary Xi Jinping pointed out: "We must promote the popularization of Marxism in China, build a strong cohesive and leading socialist ideology, so that all the people are closely united in ideals, beliefs, values and moral concepts." The theoretical character of keeping pace with the times and innovating in practice requires us to attach great importance to the development trend and law of the new media age in order to build a strong cohesive and leading socialist ideology, actively respond to the new problems and challenges faced by the development of Marxist theory in the new media age, and better promote the Sinicization of Marxism.

From the logic of theoretical development, actively

promoting the Sinicization of Marxism is the main line to give full play to the role of the media and also the basic method that the CPC must adhere to in its theoretical development. The theoretical character of Marxist fundamentally determines that we must firmly grasp the development trend of the new media era. We should change our understanding of the laws governing ideology and promote the construction of socialist ideology.

3. Promoting Ideological Governance in the New Media Era is the Top Priority of the Party and the State

"The struggle in the ideological field is still complex, and the national security is facing new situations." This is General Secretary Xi Jinping's overall exposition of the problems faced by the current ideological governance work in China, which profoundly demonstrates the important position of the ideological governance work in the overall cause of the Party and the country. Starting from the problem, the advent of the new media era has brought new challenges to ideological governance. In the new media era, profound changes have taken place in ideological communication technology, ideology and pattern. Especially in the Internet, which is the main position, battlefield and frontier of ideological work, ideological governance is facing severe challenges. General Secretary Xi Jinping pointed out: "If we can't get through the Internet, we can't get through the long-term governance. We should ensure that the Internet can be controlled and controlled." Strengthening the supervision of Internet ideology, implementing strict responsibility system and creating a clean cyberspace are the necessary ways to safeguard the ideological security and regime security of our country. From the ruling point of view, promoting ideological governance in the new media era is the proper meaning of the Party's ruling ability, and is the inherent requirement of promoting the modernization of state governance. Ideological work is an important event for the CPC to manage politics, stabilize the country, and is an indispensable part of the overall cause of the Party and the country. It is also an important part of maintaining and guaranteeing the long-term stability of the country. If we want to realize the goal of "two hundred years" and the great Chinese dream, and if we want to realize the prosperity and strength of our country, the rejuvenation of our nation and the happiness of our people, we must base ourselves on the new media era, firmly grasp the ideological work bottom line, boundaries and directions, expand and strengthen the mainstream socialist ideology, and serve the Party and the people. The development of national undertakings provides good preconditions.

From the point of view of the logic of practical development, problem thinking is the logical starting point to

promote the innovation of ideological governance in the new media era, and the long-term ruling requirement is the main line of practical logic. Faced with new problems and long-term governance, we must put ideological governance in an important position in the cause of the Party and the state, and constantly promote the overall development of socialism with Chinese characteristics under the strong leadership of the Communist Party of China.

4. The Inevitable Choice of Promoting the International Discourse Right of Ideology in China's Action

International discourse right is an important part of ideological discourse right and an important manifestation of national cultural soft power. Striving for international discourse right is not only an urgent need to strive for international status in line with China's current development, but also a positive attempt to show the strong vitality of socialism and make greater contributions to the construction of a community of human destiny. General Secretary Xi Jinping creatively put forward a series of Chinese discourses with distinct Chinese characteristics and broad-minded times, put forward China's plans for world development, and contributed Chinese wisdom to the advance of the times and the bright future of human society. As General Secretary Xi Jinping said, "We should strengthen the capacity building of international communication, carefully construct a foreign discourse system, play a good role in emerging media, enhance the creativity, inspiration and credibility of foreign discourse, tell Chinese stories, disseminate Chinese voices and interpret Chinese characteristics."^[3] When we consolidate and enhance our discourse power and influence, we must give prominence to the role of new media and promote information exchange and mutual understanding through the Internet and other media. In dialogue and communication, we should always adhere to the strong leadership of media public opinion, treat the social impact of foreign ideological trends with caution, strengthen supervision in media carriers, and ensure the overall security

of our ideology. In international propaganda, we should persist in speaking with facts and occupying the commanding heights of international public opinion. We should also firmly grasp the lifeblood of information technology in our own hands and show China's charm to the world with self-confidence, good deeds and development achievements.

China is increasingly at the centre of the world stage, playing an increasingly important role in international affairs. The ideological international discourse power of Communist Party of China will continue to enhance the appeal of socialism with Chinese characteristics in the construction of discourse system with Chinese characteristics.

How to exert the effectiveness of ideological governance is an important manifestation of the modernization of national governance capacity, a basic element of enhancing political legitimacy in Party governance, and directly related to the direction of political development. Enhancing ideological governance in the new era is of great theoretical and practical significance. It plays a decisive role in promoting the overall cause of the Party and the country. It is also the ideological guarantee for the great development and prosperity of socialism with Chinese characteristics in the new era. We must unwaveringly promote ideological governance to go deeper.

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The Feasibility Analysis of American Small and Medium Sized Companies Expanding into Chinese Market: A Case study of the World Art Group

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Abstract: An increasing number of American small and medium sized companies has been attempting to expand into Chinese market but do not make significant progress. This research takes a typical American small and medium-sized company, the World Art Group as an example, to explore whether Chinese market can provide potential opportunities for those companies.

Key words: feasibility analysis, american small and medium-sized company, Chinese market

1. Introduction

Nowadays, many American small and medium sized companies are seeking new growth opportunities by introducing their products and services into new markets. The number of American small and medium-sized companies with eyes toward exploring Chinese market has been increased a lot. Fast development of economy and raising number in the middle class in China are attracting those company's attention. In their eyes, entering into Chinese market would be a massive opportunity for growth. However, they are struggling to find their places in Chinese market. This research take an American small and medium sized company the World Art Group as an example, to analysis that whether or not that Chinese market is a good choice for American small and medium sized companies seeking new growth opportunity.

2. An Analysis of International Markets for World Art Group

Based in Richmond, Virginia, the World Art Group creates magnificent wall decor, ranging over 50,000 images in their collection. They have clients from all over the world including customer, distributors, galleries etc. In 2018, The World Art Group cooperates with School of Business at Virginia Commonwealth University to do a project "World Art Group: An Analysis of International Markets." The project aims at providing the client with prospective international markets for their expansion and growth in the home decor industry, which is provided and explained in the

report. Team members analyze expansive data collected from academic, business and media sources. Team members followed the methodology of The Golden Straightjacket (Friedman, Thomas L. 1999, Pp. 87-88.) developed by Thomas Friedman to move ahead in research, which encompasses various Economic, social and political factors, which shall be considered while entering into a new market.

The World Art Group leans heavily on Chinese market and did a lot to develop Chinese market, for instance, they collaborate with commercial agents in China, attend exhibitions and look for cooperators in China. They emphasis a lot that they are eager to expand Chinese market share but do not make much progress. They want team members can help them to make feasible schemes to drive their planning.

However, after analysis and selection, project team members find out that, for World Art Group, Chinese market is not a good choice.

In this program, market selection criteria including 1. Countries were selection from emerging, developing and developed markets based on generally accepted reputable data. 2. Research of these countries focused on economic, political, social and cultural factors. 3. Analysis of these countries were conducted on a country-to-country basis. The selection of markets is divided into two steps: the preliminary markets selection and secondary markets selection.

2.1 The Preliminary markets

The preliminary markets were chosen based on the top emerging markets as recognized by the World Bank and Bloomberg. This decision was based on a long-term outlook

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and not just merely short-term profits. Majority of the developed countries are already saturated with major art businesses and as a result project team focused attention to the emerging markets where there was growth potential. Additionally, most of the emerging markets have the largest number of middle class growth and the product and price of The World Art Group is mostly tailored to the middle class. Furthermore, majority of the middle class in these countries will be first-time home buyers which will present a unique opportunity for The World Art Group to market its product to this class. Subsequently, the effect of globalization also played a major role in initial selection as team members took into account the preference of the burgeoning middle class for western products. But investing only in mature markets involves a lot of risk, where the mature markets provide many other factors such as economic growth, financial stability etc., therefore team members diversified research by adding mature markets as well. An exception for United states was applied as The World Art Group is already prominently established in USA and team members focus is towards International promising markets, therefore, weightage was given to other countries and analysis was done for them.

The initial selection was generalized to country attractiveness for any business and not specifically for World Art group. Data(from was collated on various indices to measure country attractiveness based on economic factors (GDP growth, per capita income, economic structure), social factors (population, global competitiveness, ease of doing business) and political factors (corruption, political risk). Project team recognized for any business to be successful, a combination of these factors had to work in tandem and be

favorable.

Emerging markets are countries which characteristics of a developed market, but still have not reached the level of fully developed market. They are different than emerging economies because the latter is solely based on political and geographical boundaries. These countries have a rapid growth and higher risk & return premium. Mature markets, are markets which have most characteristics of a fully developed market. They are not solely defined by political and geographical boundaries as well. They have a higher rapid growth and industrialization than emerging markets. The list constitutes a balance of mature and emerging markets, which are promising markets for The World Art Group to go global, or penetrate deeper in the markets where they already existing. List of thirty countries, includes the markets, where WAG has already been doing business, but there are other channels for WAG to expand in those markets, where team members will research deeper, such as hospitality, licensing etc. These countries will further be narrowed down using the initial factors, researched in the previous summary, where appropriate weight will be given to those factors. All these countries are good performers in initial factors (economic factors, real estate, hospitality, social factors, infrastructure etc.).

The list of countries is given in table 1 attached here with. The analysis of those countries have been shown using Population, GDP growth, GDP per capita, ease of doing business, Political & Economic structure risk, Global Competitiveness Index, Corruption Perception Index, Global Enabling Trade index. All these factors, shows how the growth and economy of the countries are, along with the factors of doing business and flourishing in those markets.

Country or Region	Population	GDP Growth (Annual %)	GDP Per Capita, PPP (Current Int\$)	Economic Structure Risk	Ease of Doing Business	Global Competitiveness Index	Global Enabling Trade Index	Corruption Perceptions Index	Political Risk
Brazil	207,652,865	-3.595	15,127.81	BB	125	80	110	79	BB
Chile	17,909,754	1.589	23,960.27	BBB	55	33	21	24	A
China	1,378,665,000	6.7	15,534.70	A	78	27	61	79	B
Colombia	48,653,419	1.96	14,157.63	BB	59	66	85	90	BB
Czech Republic	10,561,633	2.426	34,711.28	BBB	30	31	25	47	BBB
Greece	10,764,740	0.012	26,783.02	CCC	67	87	52	69	B
Hungary	9,817,958	1.954	26,680.59	B	48	60	38	57	BBB
India	1,324,171,354	7.107	6,572.34	BB	100	40	102	79	BBB
Indonesia	261,115,456	5.016	11,612.07	BB	72	36	70	90	BB
Latvia	1,960,424	1.95	26,031.90	BBB	19	54	40	44	BBB
Malaysia	31,187,265	4.239	27,680.77	BBB	24	23	37	55	BBB
Mexico	127,540,423	2.303	17,861.57	BB	49	51	51	123	BB
Morocco	35,276,786	1.1	7,837.90	B	69	71	49	90	B
Peru	31,773,839	3.882	13,022.02	B	58	72	54	101	BB
Poland	37,948,016	2.679	27,810.52	BBB	27	39	31	29	BBB
South Africa	55,908,865	0.279	13,225.44	B	82	61	55	64	BBB
South Korea	51,245,707	2.828	35,750.77	BBB	4	26	27	52	BBB
Thailand	68,863,51	3.23	16,916.48	BBB	26	32	63	101	B
Singapore	5,607,283	1.996	87,856.00	A	2	6	6	84	A
Australia	24,127,159	2.766	46790	BBB	14	21	26	13	A
United Arab Emirates	9,269,612	3.036	72419	B	21	17	23	24	BBB
Denmark	5,731,118	1.288	49,696	A	3	12	12	1	AAA
France	66,898,109	1.88	41,466	A	31	22	13	23	AA
Germany	82,667,685	1.867	48,730	A	20	5	9	10	AA
Hong Kong	7,346,700	2.046	58,553	BBB	5	6	3	15	A
Italy	60,600,590	0.88	38,161	BB	46	43	36	60	BB
Japan	126,994,511	0.999	41,470	BBB	34	9	16	20	AA
Switzerland	8,372,098	1.287	62,881	AA	33	1	11	5	AA
United Kingdom	65,637,239	1.806	42,609	BBB	7	8	8	10	A
Canada	36,286,425	1.468	44,025	A	18	14	24	9	AAA

Table 1. Top 30 Countries

***Note: AAA indicates least risky and follows, AA, A, BBB, BB, B, CCC, CC, and C indicates most risky**

From Table 1, we can found that main land of China has absolute advents in population, GDP growth, economic structure risk, ease of doing business, but for PPP, global competitiveness Index, corruptions Index and political risk, main land of China does not have much advantages comparing with other countries. On the whole, with the concept of Golden Straitjacket(Friedman, Thomas L. 1999, Pp. 87-88.) , main land of China does not have much competitive edge among those mature and emerging markets. Hong Kong as a region of China, it is in the top of Table 1 and has more competitive. For foreign countries, Hong Kong is a better choice.

2.2 The Secondary Markets

As team identify the countries that will be favorable for any business, team members proceeded to narrow focus to countries that will be a good fit for The World Art Group and

its business model. Team members follow the model of Golden Straitjacket by Thomas Friedman. It includes a broad set of social and economic policies that are required to participate in the global economy. Countries who adopt these policies, are safer and more adaptable towards risk, also in the eyes of International investors. This result in attracting more investments resulting in growth of the nation as well as the company It encompasses various social and economic policies which are required to participate in the global economy. Factors such as economic, social and political stability were kept into consideration and the. The secondary markets were chosen on the basis of the countries that scored the highest in the aforementioned factors narrowing it down to top 15 countries. The top 15 countries are indicated in Table 2.

Country or Region	Ease of Doing Business rank	Corruption Perceptions Index	Real Estate (USD Million)	Real Estate Industry Growth rate	Hotel and Restaurants (USD Million)	Hotels and Restaurants Growth Rate	Technological Infrastructure (users in 000)	Internet Penetration rate	Tourism receipts (USD Million)
Denmark	3	1	83,950.80	13.60%	10,758.00	25.80%	5,351.50	94.60%	6,877
Switzerland	33	5	80,854.50	5.80%	24,251.20	4.30%	7,357.10	86.70%	15,937
Canada	18	9	496,985.20	6.60%	72,010.80	8.80%	32,216.30	85.80%	18,213
Unites Kingdom	7	10	658,402.10	3.20%	131,784.80	-3.20%	59,701.40	89.80%	39,615
Germany	20	10	849,996.90	5.80%	107,125.30	1.80%	72,679.40	84.00%	37,433
Australia	14	13	467,596.40	-1.10%	76,631.60	4.80%	21,205.20	83.00%	32,423
Hong Kong	5	15	96,579.60	26.10%	23,426.40	8.20%	6,472.10	74.20%	32,860
Austria	22	17	83,579.10	6.50%	30,052.60	11.10%	7,423.30	80.60%	19,300
Japan	34	20	1,171,514	-1.90%	265,585.50	-4.50%	115,086.20	86.30%	30,678
France	31	23	694,579.50	8.80%	122,371.10	10.10%	54,426.70	81.90%	42,481
United Arab Emirates	21	24	129,504.10	19.90%	17,741.70	2.80%	8,118.30	88.00%	19,496
Chile	55	24	61,958.80	16.50%	11,095.20	22.50%	12,264.80	66.50%	2,737
Poland	27	29	99,740.20	13.40%	11,386.30	19.60%	28,643.50	62.80%	10,977
Latvia	19	44	9,640.50	10.30%	1,008.40	12.20%	1,535.20	75.20%	867
Czech Republic	30	47	44,052.70	10.20%	6,377.00	8.10%	8,132.30	74.10%	6,309

Source: Euromonitor Passport, 2018

Table 2

After secondary selection, main land of China does not list in Table 2. Hong Kong is still considered as a candidate for World Art Group. Then the team decide to confirm top 5 countries that most suitable for The World Art Group company to develop their international market.

In order to identify the Top 5 countries, Team members identify factors that are specifically important to The World Art Group for consideration. Factors included- Economic factors including Ease of Business and Corruption Index, Real Estate Industry including Market Size and Growth rate of Industry, Hotels and Restaurants Industry including Market Size and Growth rate, Technology including Internet User and Penetration rate in each country and Tourism. Once the data for each of the factors was collected for every nation,

a weighted sum model was applied. Each of the country was given a score from 1 to 15 for each factor, 15 being the highest and 1 being the lowest score. The ranking is provided for every key drivers as per its importance. For example, the country with the lowest ranking in the Ease of Business is the most favorable nation for doing business, and therefore gets 15 score. Country with the highest growth rate in Real Estate Industry is the most favorable and gets 15 score. The overall score of the country being the highest stands as the most promising country for World Art Group.

The Model used for the selection is as follows:

$$2(\text{Economy})+ 2(\text{Real Estate})+ 2(\text{Hotel \& Restaurants})+ 2(\text{Technology})+ \text{Tourism}$$

This model means that 2 points will be given to

Economic factors rankings, and similarly for the rest of the factors, and lastly for tourism one point will be given to the

ranking. The top 5 countries are indicated in Table 3

Country or Region	Ease of Doing Business	Corruption Perceptions Index	Real Estate (USD Million)	Real Estate Industry Growth rate	Hotel and Restaurants (USD Million)	Hotels and Restaurants Growth Rate	Technological Infrastructure (users in 100)	Internet Penetration rate	Tourism receipts (USD Million)	Sum
Denmark	15	15	6	12	3	15	2	15	4	87
Switzerland	3	14	4	5	8	5	4	12	6	61
Canada	11	13	11	7	10	9	11	10	7	89
United Kingdom	13	12	12	4	14	2	13	14	14	98
Germany	9	12	14	5	12	3	14	9	13	91
Australia	12	11	10	3	11	6	9	8	11	81
Hong Kong	14	10	7	15	7	8	3	4	12	80
Austria	7	9	5	6	9	11	5	6	8	66
Japan	2	8	15	2	15	1	15	11	10	79
France	4	7	13	8	13	10	12	7	15	89
United Arab Emirates	8	6	9	14	6	4	6	13	8	74
Chile	1	6	3	13	4	14	8	2	2	53
Poland	6	5	8	11	5	13	10	1	5	64
Latvia	10	4	1	10	1	12	1	5	1	45
Czech Republic	5	3	2	9	2	7	7	3	3	41

Table 3. Top 5 Countries

In Table 3, after selection, Canada, United Kingdom, Germany, France and Chile are voted as optimal choices. Mainland of China, even Hong Kong does not make the list. From this project, developing Chinese market is not a rational decision maker for The World Art Group in its tracks.

3. Conclusion

There is no doubt that Chinese market is a massive potential market for company seeking new growth opportunity. Its huge population, increasing purchasing power draw a wide range and variety of overseas companies. However, troubling realistic makes notice spike for those companies. Not all American small and medium sized companies' business model fit in under Chinese market condition. The World Art Group is a typical example. It has achieved a great success and enjoyed from a huge growth trend of its sector in America. However, when it try to expand into Chinese market, it became difficult to replicate the successful management model they had in the U.S.. From the case of World Art Group, three reasons that why American small and medium sized companies are hard to develop Chinese market can be summarized. 1. Companies are not able to reduce cost. 2. Cultural background is different. 3. Market awareness in China is not as high as in the U.S. and the market are not as competitive as in the U.S.. due to local government protectionism for local company

3.1 Companies are not able to reduce cost

American small and medium-sized companies do not have much financial capacity to afford the cost of building new factories a in China to make high volume production. So, they cannot reduce cost thus lower price. Such as the World Art Group. To not incur losses in their business), prices of

their décor in China are fixed as same as American décor, even higher. In Table 1, the PPP (Current Int'l 5) of China is 15534.70. Meaning there is still a big purchasing power gap between Chinese and American. In Taobao.com (the biggest online-retailer in China), about 57% of customers prefer to décors that between ¥75-305, only 17% of customers will choose décors that between ¥305-610. However, most preferable products of the World Art Group are fixed over \$50 dollar. Chinese customers in general are more willing to pay for the cheaper one.

3.2 Culture background is different

The top 5 countries that selected are Canada, United Kingdom, Germany, France and Chile. It is very easy to find that those five countries have very similar culture background, aesthetic taste and cultural origin. Even Hong Kong was ruled by United Kingdom for more than 150 years. The culture of Hong Kong was influenced by western culture deeply. Thus their patterns of consumption are broadly analogous to American. However, Chinese culture is widely divergent. As a developing and oriental culture country, Chinese consumption pattern is quite different from consumers in western developed countries. Often an average Chinese consumer are unwilling to spend too much money on purchasing artworks, because many of them think décor is not necessities of life. Especially in some traditional common Chinese families, décor can be replaced by other products, such as Chinese wood carvings.

3.3 Brand awareness in China is not as high as the U.S. and market are not competitive enough

There are tens of thousands of décor companies in China. The competition are fierce. As an American brand, the World Art Group is not a famous brand and it has relatively high price. This leads to the situation that their products can

only attract a small portion of consumers in China.

No matter the popularity or the pricing, the World Art Group does not have many advantages in Chinese mass market.

In conclusion, Actually, Chinese market is not an optimal choice for American small and medium sized companies, especially for companies that producing expensive unnecessary means of livelihood, artworks.

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A Critical Discuss about the Management Control System and its Implementation with Top Managers

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Abstract: This article addresses the under contingency-based views how management control systems theoretically begin with and the implementation challenges. Newly appointed top executive managers are confronted with strategic managerial atmosphere and misunderstanding from subordinates, which means they have inadequate effective information to make decision. Whereas an efficient management control systems could become the coadjutant. Implementing management control systems within organization still require certain conditions and internal environment.

Key words: contingency-based, management control systems, strategic management, top managers, decision making

Introduction

The pattern of management control systems (MCS) has become the most significant element in modern management field for decades. By rising from global economic, a number of researchers start to critically evaluate the challenges that top managers may face when designing and implementing effective management control systems in organizations. In this essay, there are some contents in the main body which includes: critically revealing about defining management control systems; what are the challenges when the top manager implementing management; challenges for executives in designing management control systems.

1. Definition of management control systems

Traditionally, the primary function of management control systems is described and defined as a process emphasized in strategy formulation and implement which assures organizational objectives are achieved. Nonetheless, Robert (1990) addresses that MCS are the formalized procedures and systems that use information to maintain or alter patterns in organizational activity. Control systems are widely used for plenty of various purposes: motivation, signaling, constraint, surveillance, monitoring, learning and many others.

2. How top manager implementing management control systems and challenges within

Robert (1990) commonly, top managers set agendas for

the strategic uncertainties that the firm attempts to bring out competitive advantages. Hence, by processing these objectives, control systems are properly utilized. There are some practically cases which reveal how top managers use control systems. For example, Miles & Snow (1978) and Porter (1980) present an idea which classifies top managers into two categories. They are 'prospector' and 'defender'. Uncertain and changing environments are under intensively applied by prospectors whom utilize management control systems. To the contrary, defenders stress on operating a stable environment and bonus remuneration which is dominating based on achieving 'planning ahead' budget targets. In another words, defenders lack of activeness when they use management control systems. Meanwhile, top managers also attempt to attend strategies which set up covert rank for firm activities, and then they monitor personally to inspect that whether organizational targets are achieved. In addition, Simons (1987) argues that which aspects of management control systems to use interactively by top managers when they have to make a decision. Simons' research emphasis on when top managers use planning and control procedures to intervene and monitor decision making process activities, control systems become interactive. Via three especial functions, control systems are able to implement by top managers interactively. The three functions are as follows: signaling, surveillance and decision ratification.

Although implementation MCS for top executives is the most effective method to achieve organizational goals, there are some formidable challenges within. (Robert, 1994) when

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top newly-appointed managers are attempting strategic turnaround around in short-term, they very likely revolve around some demands: 1. Overcoming organizational inertia; 2. Structuring and communicating performance expectations; 3. Gaining organizational allegiance to the new agenda. Replacing the organization in essential method is the mandate for top managers who engineer strategic turnaround. To implement some new strategies and agenda and overcome old inertia, managers must establish a new direction for leading framework. Usually, to get rid of old behaviors is the first objective. (Tushman, Newman, 1987) for instance, by replacing key individuals whose behavior patterns do not fit the new strategy, the influences of old habit and behaviors will decrease significantly. However, these kinds of personnel transfer are always difficult to enforce. At the same time, a challenge is using management control systems to structure and communicate performance expectations. Communication between the detailed proposed new strategy and the governance structure needs diagnostic control system goals, but in realistic cases, there are insufficient existing diagnostic control systems for monitoring performance. Hence, it is sometimes difficult to meet expectations by structuring and communicating. Simultaneously, gaining organizational allegiance to the new agenda by using management control systems is a tough challenge. Unwillingness of committing to new organizational goals is a common phenomenon when top managers attempting strategic turnaround. Therefore, gaining organizational allegiance requires periods of time which consist uncertainties. Moreover, implementing management control systems is under four typical conditions: 1. Information generated by the management control system is an important and recurring agenda addressed by the highest levels of management; 2. The process demands frequent and regular attention from operating managers at all levels of the organization; 3. Data are interpreted and discussed in face-to-face meetings with superiors, subordinates, and peers; 4. The process relies on the continual challenge and debate of underlying data, assumptions, and action plans. (Simons, 1987b: 351-352)

3. Challenges in designing management control systems

(Robert H, 2003) Designing management control systems by going through contingency-based research has a long tradition. In early years, scholars drew on this research to investigate the impacts of scale, structure, technology and environment to the management control systems designing. In Robert's paper, he argues that researchers such as Burns and Stalker started to identify some fundamental variables in the design of effective management control systems in early

1970's. Historically, to assist managers as passive instrument which provides information is the primary objective of management control systems. However, Robert and others approach a perspective for management control systems, in which MCS enable to assist top manager's decision making as an actively passive designed tool. This approaches bases on contingency-base researches, and it became the most significant element principle when managers design management control systems for firms. In the meantime, there is a link between firms achieve competitive advantage and designing management control systems. (Govindarajan & Gupta, 1985) This research concentrates on the dynamic relationship between management control systems and strategy which shows interactive management control processes can be used to manage emergent strategy. Moreover, Edward (1963) presents that the organization as a control system, the organization as a whole or any one of its component subsystems can be represented. In this aspect, every individual is seen as an element of a whole system, and some principles of management control system design are introduced by Edward (1963).

Designing management control systems is a theoretical process. Therefore, when managers are designing practical management control systems, they often meet challenges. (Edward, 1963) Firstly, the usual approaches to management control systems design often fails to be effective. Edward mentions that when designer lack of total system understanding of use of subsystem constraints, such failure results will easily arise. A more basic lack of system understanding could cause some serious significance. For example, misleading management control systems could cause a budget with intangibility which has invisible harm. Secondly, a group of managers design management control systems without the certain benchmark, in which these designs are out of the planning process, no effective control can take place. (S, K, Bhattacharyya, 2014) Designer in most cases have not been able to translate the accepted conceptual framework of management control systems into models responding to the particular needs of client-companies. A common challenge is faced by the designer is a gap between strategic planning and formal planning. They are naturally two different processes substantially. Hence, managers are not in a position to approach resource allocation decisions include ideas of muddling through by Braybrooke and Lindblom (1970). They argue that even designers provide diagnostics for the designing management control systems, which possibly generate effective organizational performance. Obviously, the preceding challenges indicate that management control system is sensitive to firms' competitive strategy.

4. Conclusion and recommendations

To sum up, management control systems can be regarded as a conceptual framework and a procedure which significantly provide valuable information properly assists top managers to make decisions and achieve organizational goals under contingency-based researches. Under contingency-based researches, setting effective agendas for the strategic uncertainties is the vital connection between competitive advantages and Designing management control systems. Thus managers should have conscious attention when they are implementing and designing management control systems. Despite the fact that, challenges are filled within management control systems, such as require a long period of time, lack of total system understanding, distinguish between strategic planning and formal planning and so on. Top managers still emphasis on designing effective MSC. It is because, the entirely objective of the system designer would, build a system which assists top management gaining information for achieving its corporate mission.

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Four Major Trends in the Development of Foreign Language Teaching in Chinese Universities since the Reform and Opening-up

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Abstract: Since the reform and opening-up, college foreign language teaching in China has made remarkable development achievements and played an indelible and important role in China's gradual development and integration into the world. The trend of its development is reflected in the change of teaching concept from instrumental to humanistic. For example, the teaching theory is becoming more and more localized, emphasizing the register environment; the teaching method changes from single to multiple, emphasizing the prominent role of science and technology; the modernization direction of foreign language education policy and strategic planning is becoming more and more clear, and the development of foreign language teaching is constantly promoted in the deepening of opening-up.

Key words: reform, college foreign language teaching, Chinese communist party

Introduction

Since the reform and opening-up four decades ago, college foreign language teaching has played an indelible role in China's development from "looking at the world" to "going global" to "integrating into the world". China has rapidly developed into a major country of foreign language education, which is a strong impetus for national development, social progress and educational reform. Since the reform and opening-up, the development of foreign language education in China has always been aimed at enabling students to skillfully use foreign languages and lead a good habit of using foreign language in daily life. In this process, the awareness of using foreign language in daily life should be clearly established, the foreign language teaching should be designed and the reform of foreign language teaching should be promoted with the aim of improving the foreign language ability of the country and individuals and building a harmonious language ecology.^[1]

1. From the tool nature to the humanity nature, unceasingly enhancing the value connotation of foreign language teaching

Since the reform and opening-up, college foreign language education in China has achieved a leapfrog development, which is closely related to the development of people. College foreign language education has gone through

the stages of taking politics as the core, taking economic construction as the center and taking people as the orientation. The outline of the national program for medium and long-term education reform and development (2010-2020) clearly points out that students should be the main body, teachers should be the leading role, students' initiative should be given full play, and the promotion of students' healthy growth should be the starting point and goal of all school work, especially under the historical background of reform and opening-up, foreign languages have become an important communication tool as Chinese people have more and more chance to contact with the world. The essence of the state's vigorous efforts to promote the modernization of education is to promote the modernization of human beings and make sure that their rights and interests are in a better environment. The continuous consolidation and improvement of the status of college foreign language education in the national education system is the external manifestation of the deepening of the people-oriented educational concept. Education is related to the basic rights of every ordinary people, and it is an essential factor that the party and the country must always care about.^[2] College foreign language education is more about whether the development rights and interests of every ordinary people can be fully obtained and occupying a more powerful condition in the social competition is a basic factor that the government and schools must provide for individual development.

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The development of college foreign language education puts people first, pays attention to the education of individual value, and strives to achieve educational equity in a constant and balanced allocation of foreign language education resources. Not only that, since the reform and opening-up, education of foreign languages in Chinese universities have always adhered to the basic value of connecting with the national development and the general trend of the world and pushed forward the reform of foreign language education in the change. On the Third National Forum on Foreign Language Reform and Development in Colleges and Universities held on March 24, 2018, someone has been pointed out that: "foreign language institutions must serve the national strategy. They must think for the country, worry about the worries of the country, prepare for the needs of the country, and actively respond to the initiative of" one belt and one road "to build the community of human destiny in order to promote Sino-foreign exchanges and Chinese culture's going out and cultivate multi-level and compound talents with excellent quality.

2. From absorbing and drawing lessons to creating locally, constantly enriching the characteristics of the times of foreign language teaching theory

Since the founding of New China and until the reform and opening-up, foreign language education in Chinese universities has undergone three stages, namely, eliminating the old and introducing the new, reforming and adjusting, and suffering setbacks. Since the reform and opening-up, the study of foreign language education theory in Chinese universities has entered a new period of development. Various schools of educational theory and ideas have entered our country, which has played a vital role in the evolution of the overall foreign language education model. In the past 40 years of reform and opening-up, theoretical research has undergone an initial stage of introduction. During this period, some insightful people in the field of foreign language education began to pay attention to the development of foreign language teaching theories, and foreign language teaching and theoretical research have been given renewed attention. The last ten years of the last century witnessed an improvement in the theoretical study of foreign language teaching in universities. Entering the new century, no matter monographs or papers on foreign language teaching in universities, they are no longer simply theoretical discussions and comments. Applied and empirical studies have been greatly increased.

At different development stages, the theories of foreign language teaching in Chinese universities have their own emphases. After experiencing behaviorism theory, cognitive learning theory and constructivism learning theory, register

theory has become more and more important in foreign language teaching. It is the nature of language itself to combine the content of it with communication. The application of this theory can help students learn and understand the foreign language functions that reflect different contexts and contents, and in the process of communication, the individual who uses a foreign language can reasonably apply important functions of a language according to different situations. Contemporary college foreign language teaching theory is both instrumental and valuable, and it plays an important theoretical guiding role in foreign language teaching at all levels. One is to define the functions and objectives of the plan; the other is to focus on the learning process with the improvement of language application ability as the main body; the third is to pay attention to the cultivation of multilingual ability, meta-communicative ability and cross-cultural ability in order to meet the needs of multilingual social translation and contrastive language learning; the fourth, we should fully consider the integration of computer and network technology with language teaching, especially the cultivation of self-learning ability in language learning; the fifth, we should fully consider the role of language in the process of knowledge absorption and creation at different stages; and the sixth, we should fully consider the role of language in knowledge sharing and dissemination within and outside the carriers of universities.^[3]

3. From traditional singleness to modern pluralism, constantly enhancing the actual effectiveness of foreign language teaching methods

One of the main aspects of the college foreign language education is the development and progress of teaching methods. Over the past 40 years of reform and opening up, with the development of the times and the change of subject concept, the scope and objectives of foreign language education have also changed. There have been many teaching methods in the field of foreign language teaching, which have played different roles in foreign language teaching. Looking back on the history of the development of foreign language teaching methods in Chinese Universities, from the grammar-translation method, which was greatly influenced by foreign language teaching in the Soviet Union in 1950s, to the listening-speaking teaching method, which was paid more and more attention in 1960s, to the introduction of communicative teaching method in mid-1980s, to the emergence of self-learning and multimedia network teaching under the guidance of constructivism theory at the turn of the century, the development of foreign language teaching in Chinese universities has gone through a process from copying the Western teaching methods to

exploring unique Chinese teaching methods. College foreign language teaching in our country is carried out in a specific social background and language environment.

The remarkable change of college foreign language teaching methods in the past 40 years is the extensive and profound application of science and technology. Especially in recent years, under the impact of high-tech development such as artificial intelligence, foreign language teaching method pays more attention to the integration and innovation of technology and explores the teaching mode of integration of science. Although the current AI technology is still in a relatively weak stage, it only provides an auxiliary means for foreign language teaching and cannot completely replace the traditional classroom teaching mode. However, with the rapid development of the world, technology will have a subversive impact on traditional language teaching methods. The future classroom will be a space for teachers to actively guide students to engage in autonomous learning and exploration. This teaching method will be a great challenge to the existing teaching mode. This is precisely the inevitable trend of the overall progress of Chinese society in the past 40 years. We need to continue to strengthen the reform of foreign language education in order to better promote the development of foreign language teaching in China.

4. Promote education openness in the direction of modernization, and constantly highlight the strategic position of foreign language teaching

Foreign language education in Chinese universities has never been an independent and simple educational activity, but it has been placed on the political and economic level. The policy strategy for the development of foreign language education in universities is an important part of the overall development of the country and the basic content of education modernization. Unlike the educational system, the policy of foreign language education is a realistic policy implemented under certain historical conditions. It changes with the changing of the actual conditions, and it has more timeliness and pertinence. Since the reform and opening-up 40 years ago, China's foreign language education policy in universities has undergone four important stages, which is in strong synchronization with the overall development of education. The implementation of the "three orientations" of education is considered to be an important task in the socialist modernization drive. Foreign language education is also in an important position in the modernization of education. It will provide technical and talent support for the promotion of national economic development and social progress. In the Outline of China's Educational Reform and

Development Planning in 1990s, foreign language teaching in universities, as a specialized education, has been placed in an important position in the modern educational system. It is one of the main means and criteria to improve the quality of personnel. Entering the new century, the development of education has entered a new stage. With the advent of a learning society, foreign language education has attracted unprecedented attention from the national and social levels. Education modernization pays more attention to people-oriented, fair and equal values, and has witnessed great development in both technical and ideological levels. Since the 18th National Congress of the Communist Party of China, the cause of education modernization in China has developed vigorously, showing strong vitality.

Since the reform and opening-up, the Communist Party of China, as the leading core of the cause of socialism with Chinese characteristics, has played a leading role in integrating educational resources, promoting the establishment and development of the educational system in an overall and coordinated manner, and promoting the development of foreign language teaching in universities through a series of policies and guidelines. In the new era, China, as a big country, should promote the process of modernization and internationalization of foreign language education in universities with greater confidence. We should actively introduce foreign educational resources, learn from excellent teaching concepts, methods and means, strengthen research and cooperation with foreign educational institutions, and actively promote the modernization of foreign language education. Under the guidance of the principle of independence and autonomy, China's foreign language education should strengthen its connotation of modernization, innovate theories and adjust policy strategies, so as to better start the development of university foreign language education.

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The Measures of Quality Assurance System in Technical Colleges

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Abstract: The popularization of higher education adapts to the rapid development of society, but it also brings the problem of incomplete development. From IQA, it is necessary to improve the system and structure, from EQA, to change ideas and increase the provision of quality resources. Improving the quality of education must be supervised and monitored. Effective internal and external supervision can make the quality change from assurance to improvement.

Key words: the measures of quality assurance system, internal quality assurance, external quality assurance, measure

Introduction

At present, China's higher education is moving towards the direction of popularization, and the quality of education has attracted more attention from the public. Vroeije believes that quality assurance in higher education is "systematic, organized and continuous attention to quality from the perspective of quality maintenance and quality improvement"^[1]. G. Harman believes that "quality assurance refers to the adoption of systematic management procedures to ensure that quality is qualified or improved, while maintain the confidence of major stakeholders in quality management and its results."^[2] *Dictionary of Education* explains: "the quality of education is the evaluation of the level of education and the quality", "Ultimately reflected in the quality of the training object", "the measurement standard is the educational purpose and training objectives of all levels of schools. The former stipulates the general quality requirements of the trainees, which is also the fundamental quality requirements of education, while the latter stipulates the specific quality requirements and the specifications to measure whether the talents are qualified."^[3] But the world bank's analysis of eight different systems of higher education around the world also concludes that the quality of higher education itself is hard to measure. Educational production functions are much more complex than manufacturing, and the results are often not readily identifiable in a timely, objective, and effective manner.^[4] From this, the

comprehensiveness and complexity of higher education quality evaluation are evident.

On January 30, 2018, the ministry of education issued *the National Standards for the Teaching Quality of Undergraduate Majors in Ordinary Institutions of Higher Learning*, which is the first national standards for the teaching quality of higher education issued to the whole country and the whole world, and has important symbolic significance for the construction of the higher education quality standard system with Chinese characteristics and world level. It is necessary to use the standard to strengthen the teaching quality of the technical colleges. The remarkable feature of the standard is to promote the transformation of teaching from "teaching well" to "learning well". However, both "teaching well" and "learning well" need to be guaranteed by the quality system. According to Wu Yan, director of the department of higher education, "quality first, standards first" and "standards first, use first" mean promoting reform, construction and strengthening by standards.

1. What should the technical college do ?

"GB" has three principles: first, the student center. Second, output orientation. Third, continuous improvement. As a skilled college, it should also put "output" in the first place, take the initiative to connect with the local economy, reasonably set talent training objectives in line with the

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market, optimize talent training programs, and configure and update course contents. On this basis, improve the monitoring mechanism in and after class, stimulate students' learning potential and enhance the education quality. Of course, the central position of outstanding students has been done all over the universities, but why to do, how to do and what to do is the direction and key to build a quality assurance system. The construction of distinctive teaching quality assurance system should first be linked with the majors and students, should be oriented by social needs, and should be guided by professional direction.

2. The imperfection of the quality assurance system

China's teaching quality management has been performed for several years, but how to organically combine the target system, curriculum system, teacher system, evaluation system with each other and how to effectively develop in harmony requires the overall planning and decision-making of the upper level of the college. At present, our quality assurance system is still incomplete and imperfect.

2.1 Limited view

Colleges, especially skill-based colleges, have relatively limited teaching objectives, which are limited to the development of a certain major, ignoring and hindering the comprehensive and subsequent development of students. It is true that skill-based colleges cultivate skill-based talents, and the cultivation of skills is a direct means of talent cultivation. However, with diversified teaching objectives, the cultivation of lifelong learning ability is indispensable. Statistics show that 50% of the knowledge of students is outdated by the time they graduate. How to keep pace with the times and how to develop continuously without the guidance of teachers are the development direction of all the colleges.

2.2 Imperfect evaluation

Although all kinds of technical colleges have their own quality control system, but whether to match with the development of the colleges rather than imitation is worth discussing. Whether the subjective and objective evaluation indicators are reasonable, scientific, fair and suitable is worth studying.

2.3 Incomplete monitoring

Classroom teaching is the main body of teaching quality monitoring. It monitors the teaching activities of teachers more, but seldom involves the process of extracurricular practice, even more relaxes the monitoring of students' own learning situation. Colleges emphasize the construction of credits, focusing on the assessment of students' knowledge and skills. There is no corresponding standard for the assessment of moral quality and ability.

3. The feedback mechanism of the teaching quality assurance system in technical colleges

3.1 Feedback from career maturity

According to the *Social needs and training quality evaluation report in Taizhou Polytechnic college* (2015) (*Evaluation Report*), the degree of relevance of some majors, the degree of professional coincidence and the satisfaction of employment status are relatively low, the reason is the lack of career maturity. Therefore, it is necessary to strengthen the prospective cognition of the education and enhance the recognition of future career, so as to make a more reasonable plan for the career development of students.

3.2 Feedback from student satisfaction

According to *Evaluation Report*, students' satisfaction for the teaching is 94%, which is 4 percentage points higher than the other higher vocational colleges in Jiangsu Province. The low degree of satisfaction mainly focuses on the insufficient internship and practice (63%), unable to arouse students' interest in learning (45%), and insufficient participation (30%). Students are users of knowledge, and their satisfaction is the only source for judging and evaluating their own work. Therefore, only perfect teaching quality can enhance students' competitiveness for jobs, and enhance students' sense of identity for their major.

3.3 Feedback from employer satisfaction

Different business has different workplace culture, so employer satisfaction is not the same. From *Evaluation Report*, government institutions, scientific research or the state-owned enterprises have declined compared with the previous year, but for private enterprises, sino-foreign joint venture and foreign capital enterprise, satisfaction is on the rise. In response to different types of unit, culture and ability demand characteristics should be considered during the process of training.

4. Two aspects of teaching quality assurance system

The concept of Quality Assurance first emerged in the 1960s. With the popularization and development of higher education, the concept of higher education Quality Assurance emerged as The Times required. Quality assurance can be divided into internal and external aspects. The following will discuss the establishment of quality assurance system from internal and external aspects

4.1 Internal Quality Assurance, IQA

Internal quality assurance is IQA for short, which is the internal demand for the self-development and sublimation, and is the basis and important part of QA. Without the internal quality assurance system, external quality assurance is meaningless. Harvey, an academic, believes that IQA is a series of inspection, assessment and

audit processes carried out by institutions of higher learning to ensure the quality of education and research.^[5] *The Teaching Evaluation Opinions of University* takes internal quality assurance as the first part of the evaluation system, which is the reconfirmation of IQA, as well as the deepening and sublimation of the understanding of the essence of quality assurance.

4.1.1 Breadth of IQA

IQA is the reflection and evaluation of the process and effect of teaching activities, as well as the improvement, development and promotion of teaching quality. The implementation of IQA is multifaceted, including top-down monitoring by university leaders, self-perception of teachers and self-evaluation of students, as well as mutual evaluation and improvement of each other, such as discussion between teachers and teachers, between teachers and students, and between students and students. It is not one-way evaluation but two-way. No matter what kind of quality control, it should be a way for the main body to participate and advance together. The organizer can be not only a functional department, but also teachers or a students. So internal quality control system will include the whole security system on the level of schools, professional teaching evaluation system, the faculty evaluation system, teaching materials evaluation system, skills evaluation system, and evaluation system of teaching research and demonstration. As long as good for the improvement of education teaching and upgrade, internal quality could be included.

4.1.2 Depth of IQA

IQA should go deep into the departments and professions. For technical colleges, IQA attaches importance to the design of the top on the basis of the principle of uniformity, in line with the principle of efficiency to build the construction of multilevel quality assurance framework, at the same time gives more autonomy from departments and professional teachers, plays the main body of initiative, arouses the enthusiasm of students, and adjusts the integration of teaching resources, improves the pertinence, effectiveness and forms operation mechanism of internal teaching quality with clear mission, clear responsibility. Even more, each should be coordinated and promoted.

4.1.3 Connectivity of IQA

Between schools, departments, masses, divisions, teachers and students, the contact should be strengthened, learning reinforced, and feedback timed. Consciousness of quality assurance system could be as the research object, as the key to reform and as room for improvement, which can communicate and interact, keep your mind in the right place, absorb new ideas, innovate old ideas, learn from each other, use advanced education and teaching management

idea and pattern for reference.

IQA should strengthen the construction of internal quality assurance culture and make the internal quality supervision mechanism become the normal teaching and code of conduct. We will allow various systems of oversight, including the system of teaching supervision, the system of officials from departments and from the colleges attending lectures, the system of routine teaching inspections, and the system of teachers' development of their teaching abilities, to form a stakeholder group that checks, supervises and participates. At the same time, modern information technology is used to build a teaching observation platform, establish teachers' teaching files, and promote the sharing of teaching resources between schools. Therefore, IQA is a closed loop system that integrates process management, interest correlation and full participation. From assessment to monitoring to feedback to improvement, it runs through the whole process of talent cultivation in the college.

4.2 External Quality Assurance, EQA

The operation of colleges is inseparable from the support of the government, the control of the society, and the external guarantee from the ministry of education and social institutions at all levels. Pay attention to the third-party supervision, pay attention to professional evaluation, and strive to truly form the quality assurance system integrated with the government, society and colleges.

4.2.1 Key --- government

It is the duty of the government to transform and separate functions, and establish effective leading mechanism. *The Outline of Education Planning* clearly states that the government plays a leading role in ensuring the quality of higher education, and it needs to transform its functions and separate government affairs so as to carry out macro-management, coordination and supervision of colleges through such effective mechanisms as legislation, standard setting, overall planning, funding, process monitoring and result recognition. The government is the leader, not the supervisor. What the industry can manage is under industry control, and what the society can manage is under society control, which form the situation of separation of management, conduction and evaluation.

4.2.2 Body --- college

With the deepening of the reform of higher education management system, the autonomy of colleges is gradually increased. By responding to social needs and connecting with the actual situation of our college, the IQA system should be established to make reasonable positioning, make scientific planning, regulate the distribution of disciplines and majors, and improve the overall level of running a school and the quality of education.

4.2.3 Assurance --- society

Inherent professional feature in education industry makes colleges prefer traditional quality control system, instead of considering the influence of the external environment, which leads to social and public trust crisis. Social need is required to be transparent and people need is converted. Therefore, quality control system should be communicated with people and accepted their supervision. All walks of life should strengthen capacity building, learn from the colleges of home and domestic and take the initiative to provide professional external quality assurance services for the government and colleges. At present, almost all kinds of majors have the participation of industry associations, especially in professional certification. The participation of industry ensures the professional teaching quality of colleges and universities and the self-discipline of evaluation industry, enhances the social adaptability of majors and disciplines, and improves the society's confidence in colleges and universities.

The popularization of higher education meets the growing educational needs of the people and adapts to the rapid development of the society. However, the problems brought cannot be ignored. From the internal perspective, its system is not perfect and the structure is not reasonable enough to support such a rapidly expanding scale of higher education. From the external point of view, the change of ideas needs time, the supply of high-quality resources needs sources, the construction of EQA is not enough, the operation mechanism needs to be improved. Generally speaking, college education, especially the teaching quality can not adapt to the change of the popularization of education in a short period of 20 years, so it needs both internal and external quality assurance.

5. Measures of quality assurance system

5.1 The strict supervision mechanism is the guarantee

The construction of QA is a systematic engineering, including policies and regulations, quality standards, evaluation system, regulations and systems, etc., which needs to be designed and promoted by specialized institutions. The ministry of education as well as evaluation centers at all levels or industry associations have played a huge role, but all these need related regulatory mechanism work norms formulated by the government level; relevant "forbidden" work discipline; completing expert training, evaluation and withdrawal mechanism; improving information bulletin to accept social supervision. At the same time, the status data analysis platform is used to objectively and fairly evaluate the education and teaching management system, so as to reduce external interference, reduce internal manipulation and truly improve the quality assurance mechanism. Under the requirement of "separation of management, conduct and

evaluation" proposed in the current education planning outline, it is a perfect performance of the supervision mechanism that how to explicitly entrust the corresponding specialized institutions to operate and how to entrust vocational education institutes or research institutions to study and promote the development of the quality assurance system of various colleges.

5.2 Reasonable evaluation scheme is the escort

The state has "free physical examination" for talent evaluation, professional certification, status database, quality monitoring report and evaluation institution construction of major colleges, so as to maintain the objectivity and impartiality of the evaluation work and ensure a normal, realistic, open and transparent evaluation fashion. The reasonableness of the plan is the basis of all these. It is necessary to sum up the experience and lessons of the past, draw lessons from the advanced ideas at home and abroad, collect the wisdom of experts and scholars, and truly carry out "health examination" for colleges. The formulation of the evaluation plan is a process of consultation, which emphasizes the respect for the demands of stakeholders, maintains the quality of education and teaching and its responsibility to the society and the public, and is a necessary means to promote the establishment and improvement of the internal quality assurance system of the colleges. With the participation of evaluation, schools can change from passive acceptance of external evaluation to active establishment of a self-evaluation system, so as to improve the internal quality assurance system.

China's education is vast and widely distributed. Without unified standards, everything would be in chaos. National quality standard is not only the basic requirement of running a college, but also the basis of education and teaching evaluation, as well as an important parameter of social supervision. Reasonable evaluation scheme should be basic, hierarchical and classified. Those who fail to meet targets should be issued by a yellow, a red card warning, rectification within a time limit, publicity to the society. Those who need the standard should be further standard and requirements, and become the future development direction, gradually guide colleges to develop, to innovate, to go towards a higher level, finally to build the brand of China's colleges by a concerted effort.

5.3 Participation of enterprises is the support

Basically higher education evaluation is a government action. From the validity and reliability of evaluation, it is imperative to establish a government-recognized intermediary evaluation institution. At the same time, colleges train the future social and professional people, so the training must be connected with all walks of life in the society. Therefore, during the period of running a school,

vocational elements of enterprises should be added. Considering the possibility and effectiveness of teaching performance, when the school develops professional teaching quality standard, the enterprises need to participate, and when develops the professional qualification standards, the enterprises should have a say in the professional assessment, even more, when develops the professional certification, the enterprise's participation is the driving. In recent years, the ministry of education has set up line branches, and issued *Opinions on giving full play to the guiding role of the industry to promote the reform and development of vocational education* in 2011, thus how to carry out the spirit of the document and give play to the role of quality assurance is the guidelines followed by the colleges.

5.4 Complete internal construction is the foundation

The colleges have established different internal quality assurance system according to their own development, but the general principle is the same. Under the guidance of quality culture, all colleges determine their educational goals, provide financial and material support, and establish quality standards for teaching and majors. Therefore, it is necessary to standardize the process management, strengthen the incentive mechanism, build a data platform for the teaching status, attach importance to normal monitoring, regularly publish annual quality reports, feedback all kinds of information, accept social supervision and evaluation, and finally ensure the smooth progress of all work.

In terms of modern higher education, the quality assurance and improvement of IQA is the basis, the

assurance of EQA is a strong supplement. Without IQA, there is no stabilization, without EQA, there is no standard and reference, and without EQA, it is difficult to make the quality assurance system further forward. In between, a compromise and balance should be spotted. Education quality needs to be improved and must be supervised and monitored to a certain extent. Only this, can effective internal and external supervision make the quality change from assurance to improvement.

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On the shaping of hero image in the TV series *A Great River*

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Abstract: There are some successes and some shortcomings in the creation of heroic images in the TV series "A Great River". There are two points of success: the shape of the heroes expresses the theme that is people create history; the main characters are multidimensional and vivid. There are also two shortcomings: the lack of female heroes cannot truly reflect the modern women; the minor characters lack distinct personalities and fail to impress the audience. Based on reality and focusing on The Times, the TV series "A Great River" truly reflects the vicissitudes of China's reform and praises the excellent qualities of ordinary working people, which has a very positive social significance.

Key words: great rivers, heroes, Heroines

Introduction

The TV drama *The Great River* is adapted from Anai's novel *The Great River*. It tells the story of the pioneers of reform, such as Song Yunhui, Lei Dongbao and Yang Xun, breaking through, developing and innovating constantly in the tide of great changes under the background of reform and opening-up from 1978 to 1992. It eulogizes the many heroes of China in the 40 years of reform and opening-up. Many heroes in China are enterprising and innovative. They not only create the history of the people with wisdom and perseverance, but also create a new life for themselves. As an epic drama, "The Great River" records the times and eulogizes the people, which showing that the people are the main body of creating history. Around this theme, the TV series has made great efforts to create a group of heroic images. The 40 years of reform and opening up in China are the 40 years of heroes in succession. Millions of ordinary working people, adhering to their posts, breaking the waves and sailing up to meet difficulties, have become heroes of the times. After the broadcasting of *The Great River*, it has been widely praised by the audience. The main reason is that the heroic image of the play is truthful and deeply rooted in the hearts of the people. There are two successes in shaping the heroic image of the play.

1, *The Great River* portrays heroes in three aspects: industry, agriculture and commerce, which represent all kinds of heroes in the past 40 years of reform and opening up. There are three protagonists in *The Great River*: Song Yunhui, Lei Dongbao and Yang Xun. Because of his poor family

background, Song Yunhui was forced to drop out of junior high school. He completed high school courses by self-study, took the college entrance examination in 1978 and won the first place in the county. After graduating from University, Song Yunhui entered Jinzhou Chemical Factory, and made great contributions to the development of the factory. Lei Dongbao, a demobilized soldier, was appointed Deputy Secretary of Xiaoleijia after returning to the village. He led the villagers to run brick factories, prefabricated boards factories, wire factories and pig farms. He went through many hardships and brought poor Xiaoleijia village to the road of becoming rich. In order to help his widowed mother raise his younger siblings, the eldest son of his family, Yang Xun sells steamed bread everywhere at a very young age, from retail to wholesale, from hawker to owner. he was floating and sinking in the tide market economy. In *The Great River*, three men are the heroes of the story. The three heroes are from industry; agriculture and commerce. Song Yunhui came from a farmer's family and entered the factory after graduation from university. He made great strides on the road of technological innovation and became the forerunner of industrial position reform under the macro leadership of the Party Central Committee. Lei Jiabao returned to the countryside after the demobilization of the army, freely sprinkled his ambition and pride in the vast countryside, and created brilliant labor results under the policy of reform and opening up. Yang Xunshao, a businessman, walked out of the village with a burden until he reached the northeast, and then went to the Jinzhou Electrical Appliance Market to engage in electrical wholesale, which became the seaman of commerce tide. The three men are separated from each other and

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intertwined with each other. Lei Dongbao is Song Yunhui's brother-in-law. Yang Xun is the son of the benefactor when Song Yunhui jumped in to raise pigs. Song Yunhui is the link between Lei Dongbao and Yang Xun.

The creative team of *The Great River* breaks through the stereotype of character setting in TV dramas, uses innovative thinking, triangular character setting, fully centers on the theme, which shows the concrete track of the reform in the three fields of industry, agriculture and Commerce in the past 40 years of China's reform and opening up through the struggle process of the three protagonists and eulogizes the strong reformers and the great new era. This ingenious thinking fully reflects the excellent quality of creative team thinking. "Thinking is the core of intelligence and ability. The hierarchy of intelligence and ability is mainly embodied in the level of thinking, which is determined by the quality of thinking. The state of thinking and the quality of thinking determine the state of writing and the character of the text. To form a good state of thinking and cultivate excellent writing thinking quality, we must first solve the thinking obstacles." As an epic TV play, *The Great River* has profound connotation and great momentum, and has created a large number of heroes. Song Yunhui, Lei Dongbao and Yang Xun are the tide-makers in the tide of reform, besides them, there are also a group of civilian heroes who have made great efforts and dared to play the role. Song Yunhui was surrounded by not only a reckless, forthright and brave worker hero Xun Jianxiang, but also a pioneering and enterprising Secretary Shui dedicated to the public, as well as a chief engineer who studied technology and cherished talents. Near Lei Dongbao, there are a group of peasant heroes who start their own business with him. Xiaoleijia Village's old village Communist Party secretary, devoted all his efforts to lead the people of the whole village to become rich, and finally used his life to apologize for embezzlement of 30,000 yuan. The older generation of peasants who can correct the mistake as soon as he know it is a hero. Siyan Accountant, Deputy Secretary of Shigen, Factory Director Hongwei and other native farmers in Xiaoleijia Village are a group of heroes who are closely around Lei Dongbao and work hard together to start a business. Yang Xun's side is also surrounded by a group of unknown heroes. Yang Xun, from a peddler who travels from village to village to a company that starts batch of power generators in Jinzhou Electric Appliance City, has gone through many thorns along the way, with a large number of unknown heroes walking side by side with him. The history of art at all times and in all countries is a history of shaping heroes. The connotation of heroes also keeps pace with the times. The word "hero" originated from mythology and refers to the "descendants of God" which is different from

ordinary people. It has evolved to the present day and refers generally to ordinary people with the characteristics of "being worshipped". Art has never stopped shaping "heroes". With the changes of the times, people's values are also changing, and their understanding and shaping of "heroes" are also changing accordingly. In the contemporary era, "heroes" are the masses of the people, who have a rhythm with the times and have written magnificent heroic chapters with their own actions. The heroes portrayed dozens of heroes in *The Great Rivers* cover three industries: industry, agriculture and commerce. These characters act as assistants of the protagonists in the complicated events. Together with the three protagonists, they construct the evolutionary history of Jinzhou Chemical Plant, Xiaoleijia village and commercial workers.

2. The main characters are three-dimensional with distinct personality. In order to impress the audience deeply, the protagonists of TV plays must have distinct personalities. The creator of *The Great River* sets the three protagonists a very distinct personality: Song Yunhui is gentle and earnest, persistent and unyielding. Lei Dongbao is straightforward and bold, daring to explore and take on the responsibility. Yang Xun has a smooth personality and is able to speak eloquently, bear hardships and stand hard work. *The Great River* sets up a series of events for the reform and development of the three protagonists. From small to large, from easy to difficult, these events are advancing step by step. The development of these events has naturally triggered endless sharp contradictions and conflicts, in which the character of the protagonist has been fully presented and displayed. Song Yunhui, Lei Dongbao and Yang Xun all encounter pressure and resistance from all sides on their respective innovation paths, and these negative confrontational forces make the personality of the characters develop more vivid. "The stronger and more complex antagonistic force against the hero, the more fully the characters and stories will develop. The term 'antagonistic force' does not necessarily refer to a specific villain or villain. Big villains, such as terminators, may also be pleasant characters in the right type, but what we call "antagonistic forces" refers to the sum of forces that oppose the will and desire of the characters." In order to fully express the personality of the three positive protagonists, the TV drama "River" set up opposition characters for the three protagonists, so that show the character in the conflict. Yu Shaoqing and Song Yunhui are classmates in a dormitory. The former is secular, tactful and selfish, the latter is upright, hardworking and incorruptible. On the great journey of China's 40 years reform and opening up, there are not a few people fishing in muddy waters like Yu Shaoqing. As the opposite of Song Shaohui, this negative figure strongly

reflects Song Shaohui's upright and aboveboard character. Lao Husun is the negative character of Lei Dongbao. He is lazy. He just wants to get power and a good life by evil ways. He tries to find the stubble of Lei Dongbao, and tries every possible way to set up a booty trap. He wants to overthrow Lei Dongbao and become the leader of Xiao Leijia Village. Lao Husun's laziness sets off Lei Dongbao's diligence. Lao Husun's darkness reflects Lei Dongbao's kindness, and his unctuous reflects Lei Dongbao's righteousness. Yang Xun's way of doing business is also full of ups and downs, which is touching and admirable. In marketing, Yang Xun encountered such undesirable phenomena as eating rebates and selling fake goods, which are the shortcomings in the process of any country's reform. Yang Xun, who has traveled all over the Yangtze River, drifted all the way and worked hard all the way, regards Jinzhou Electrical Appliance Market as a new starting point for his business and intends to make great achievements. However, the joint venture Lao Wang's sale of fake electrical appliances led to an explosion in the coal mine, which destroyed Yang Xun's painstaking management for many years. In the face of unexpected disaster, Yang patrols a fire burned all the used goods in Jinzhou Electrical Appliance Market, and made him win the trust of consumers again with the pledge of "One false pays ten". Yang Xun's perseverance in meeting difficulties and honesty and trustworthiness are more vivid and concrete against the backdrop of Lao Wang's irresponsible deception. "Multidimensionality is fascinating; Contradictions in character or behavior can lock the audience's attention. Therefore, the protagonist must be the most multi-dimensional character so that focus on the leading role. Otherwise, the center of good will deviate from the center. The imaginary universe will collapse. The audience will lose balance." The three protagonists in *The Great River* are all multi-dimensional characters. They all have complex and contradictory characters. Song Yunhui is a scholar. On the surface, he seems to be weak and can be easily controlled by others, but on the inside, he is very strong. In Jinzhou Chemical Plant, Song Yunhui withstood the pressure from the general engineer, the director of the factory and the authority of ownership of the whole plant. At the technical conference of the whole plant, he explained the drawbacks of "FRC". Finally, he fought with all his technicians to support his new choice. Song Yunhui's exterior and interior form a strong contrast, which makes the character charming. Lei Jiabao is hard-working, kind and loyal, but his character is very rough, often hit people, his actions and hearts also formed a complex contrast, so that this character produces exploratory tension. Yang Xun is small in shape and young in age, but he has great ambition. He is small in strength. He goes out step by step from the big mountain ditch to the

northeast, which is thousands of miles away. Finally, he has to annex the whole electrical market. Yang Tour's appearance and his ambition form a powerful contrast, which gives Yang Xun more attractive characteristics.

Generally speaking, the heroic portrayal of *Great Rivers* is successful, but there are also some shortcomings, mainly reflected in two points.

1, the lack of female heroes cannot show the true face of the times. There are these women in *The Big River*: Song Yunping, Dong Bao's mother, Yang Xuan's mother, Liang Sishen, Liu Qiming, Cheng Kaiyan, Dai Jiaofeng and Wei Chunhong. Among these female images, Song Yunping is the most energetic and outstanding role of the creator. Song Yunping has all the virtues of Chinese traditional women: she loves her brother, respects parents (including your mother-in-law), cares for your husband. She loves learning and works hard. Such a perfect woman appeared as the foil of Song Yunhui and Lei Dongbao. Song Yunping's growth trajectory is a background for the two heroes. It is regrettable that the creator of "The Great River" put such a heroic woman in a foil position and refused to show her heroic qualities in a positive way. Song Yunping died of an unexpected miscarriage at a young age, which completely killed the woman who might become a hero. Dongbao's mother was widowed all her life and worked hard to raise her son by herself. These qualities also are excavated as a hero, but in "The Big River", she is a backward representative, lazy, gossiping, picking on her daughter-in-law, dragging her son behind, which cannot make the audience feel good. As a village woman director, Yang Xuan's mother is the only woman leading image in *Big River*. She shoulders the responsibility of leading the village women. She takes care of and helps Song Yunhui and brings up children alone. These excellent qualities make her a hero. But instead of showing her heroic qualities positively in *The Big River*, on the road of Yang Xun's love and career, she set many obstacles. Liu Qiming and Cheng Kaiyan are women of the age in the industrial field. They are both from high-level families. They should be well educated and have profound cultural and noble ideological accomplishments. However, in the play, they are not enterprising, and they pursue food, drink and play blindly, which is a pair of thorough vase images. In Wei Chunhong's, there are some characteristics of women's independence and self-reliance in the times, but she appeared only at the end of the play, and her heroic characteristics have not been fully demonstrated. Dai Jiaofeng is beautiful, smart and loved by everyone. She follows Yang Xun, who has no money, to start a business with him. She is greedy and hard-working. She could have become a heroine in the business world. But the creator makes her despise the poor and curry favor with the rich,

abandons the bankrupt Yang Xun and then follows the rich boss. Liang Sishen is a talented young woman who went abroad to study in the United States. She is the earliest representative of a group of foreign-related women after the reform and opening up. However, in the play, she is capricious, obstinate and lacks the characteristics of heroes. "A signifier of revolution, party spirit and victory, he typically and centrally reflects the essence and mainstream of socialist society. His qualities and ideas greatly exceed the ideological level of the general audience. He is the object of study and respect for the film-goers, not the object of identification." These female images in *The Great River* are not only not beyond the general ideas and qualities, but even lower than the ordinary people, which makes it difficult to get the audience's recognition and worship, let alone heroes. In the past 40 years of reform and opening up in China, women have also made immeasurable contributions in the process of reform. There is no complete female hero in *The Great River*, which damages the perfection of the play to a certain extent.

2, the minor characters lack distinct personality and cannot impress the audience. As mentioned above, the three protagonists in *The Big River* are three-dimensional and vivid, but the minor characters lack distinct personality. Several leaders on Song Yunhui's reform road: The secretary Shui, the director Fei of the factory, the vice director Cheng of the factory, and the chief engineer Cheng of the factory all lack obvious differences in appearance, language and action, which makes it impossible for the audience to distinguish roles. The four leaders are neither tall nor short in appearance, nor fat or thin. Speaking is neither high nor low, nor slow; neither quick nor slow, neither urgent. Lei Dongbao's village committee, Lei Shigen and Shi Hongwei have a high degree of similarity, high similarity in appearance and personality, nor their recognition is too low, which makes the audience feel laborious. Siyan accountant have a little recognition because they wear a pair of glasses, but they also lack personality characteristics." Small characters must be deliberately shaped into flat characters... But it can't be inflexible. Give each small character a refreshing feature that makes it worthwhile for his actors to perform at the moment they appear on the screen, but that's enough." It's a great pity that the minor characters in *Big Rivers* lack the characteristics that make the audience remember and make the actors worthwhile to perform. On the basis of the existing plays, if each minor character is endowed with a

characteristic, the play will be more ornamental. For example, Chief Engineer Cheng is a senior engineer. He is characterized by "technical control" and always wears a safety helmet. The director Fei is good at making power, and he is self-motivated. His characteristic is "Empire Chu". Letting him hold a big pipe in his hand will be better. The Secretary Shui loves reading and is willing to study. His characteristics are "intellectuality". He wears thick glasses and always holds a book in his hand. Vice Director Cheng is a maintenance engineer and responsible for the maintenance of the whole factory. His characteristics are "detail control" and he carries a maintenance box with him. Lei Dongbao's assistants, Lei Shigen and Shi Hongwei, can be designed to be fat and thin in appearance, to be literary and military in career and to be quick and slow in personality. Since then, these characters have a strong recognition in appearance and have a higher ornamental value. After the external image and personality characteristics are set, a phrase is designed for each minor character to make these minor characters have their own unique linguistic characteristics. These minor characters will be more vivid, and their attraction to the audience will also increase.

The TV series "River" has both success and shortcomings, but its flaws do not hide the advantages. Generally speaking, it is a very good realistic TV series. The play is rich in content. It uses vivid characters, solid events, reasonable and sharp contradictions and conflicts to construct a complex, pluralistic, authentic, credible and interesting story. Formally, the creators created a feast of audio-visual pleasure for the audience with delicate designs. Based on the reality and the times, *The Great River* truly reflects the course of reform in contemporary China, extols the excellent qualities of ordinary working people, and has a very positive social significance.

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Pricing Model of Commoditization in Privacy in the Era of Big data

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Abstract: In the era of big data, everyone's information will be stored, processing and analyzed. The problems related to the right of privacy are more extensive, and we think the right of privacy is the basic right of human-beings, and has the attribute of property right. So, we need a complete set of theory to assess the cost of PI and establish a pricing system to measure the potential gain from keeping data private.

Firstly, we want to categorize individuals into subgroups with reasonably similar levels of risk. Because we want to study the fuzzy evaluation object by precise digital tools, we adopt the fuzzy comprehensive evaluation method to establish a Privacy risk assessment index system, and use the transaction coefficient to describe the level of the risk.

Considering the prices can reflect the reality and realize the maximum social benefit, we set up the model for cost of privacy by using the VCG Auction mechanism based on the Privacy risk assessment index system; we call it the cost of privacy model. Through the model, we design a pricing structure for PI. In other words, we can implement the pricing of privacy information at various risk levels.

If we turn PI into a commodity, considering the problem of asymmetric information of IP is more serious than PP and IP, we establish a pricing system called the pricing model of commercialized privacy information based on the cost of privacy model.

This model simulated the trading process of privacy information from the point of view of buyer and seller, and set up the pricing formula from the degree of trust between the buyer and seller and the maturity degree of the market.

Key words: PI, cost of privacy, pricing structure

1. Introduction

1.1 Background

With the development of science and technology, electronic communication and social media have become more and more widespread. At the same time, it will bring a degree of PI (private information) leakage. Pew Research's survey showed that 93% of American adults think it is "important" to keep organizations or enterprises who can get personal information under control [3].

1.2 Our general analysis

We are going to establish a model to evaluate the cost of privacy to protect PI, which will consider the privacy risk level, relation for supply and demand, Era of Big Data, dynamic factors and so on.

1) Using AHP [4] subjective weighting method and fuzzy comprehensive evaluation (FCE) method to establish a model which can rate the risk of privacy information disclosure.

2) Introduce the VCG [7] auction mechanism to establish the basic privacy pricing model.

3) Using the relation for supply and demand in the

economic system to obtain the model of the commercialization of private information.

4) Establish a series of systems for factor analysis and calculation

5) Extended and modified model under different new conditions, such as the background of Era of Big Data.

2. Assumption

We assume that there are two markets, a privacy protection market and a private information trading market.

As a basic right of citizens, the right of privacy has its own particularity, unlike other general merchandise. State laws protect citizens' right to privacy. (Alaska art. I, § 22') [1] (California art. I, § 1')

3. Models

3.1 Privacy risk assessment index system

3.1.1 Establishment of the system

3.1.1.1 Index setting and filter

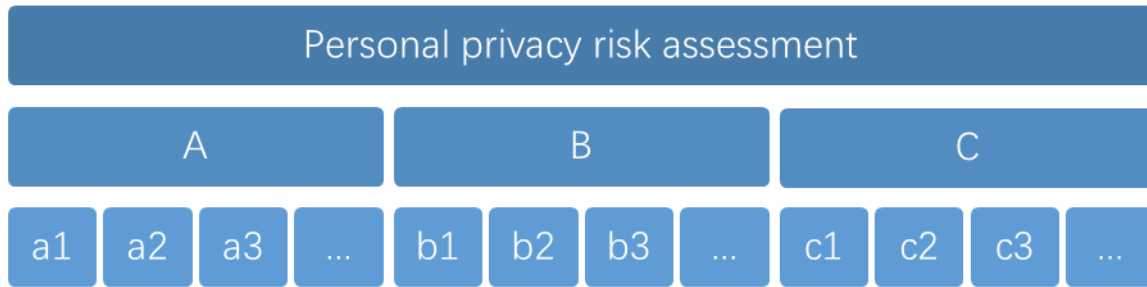
Definition 1. Set indexes and then filter them by using Delphi method.

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A: privacy category
 a_i : The basic information, property information, health data, social relations
 B: individual behavior
 b_i : Bad habits, always paying online, simple password, weak privacy awareness.
 C: External threats
 c_i : The hacker attacks, leakage of relevant institutions, malicious to collect, privacy transaction
 Definition 2: "Lowest risk, lower risk, general risk, higher risk, highest risk", means value is [1, 3, 5, 7, 9]. The indexes of privacy risk assessment are all negative indicators, namely, the smaller the index, the better the evaluation.

3.1.1.2 Index weight

Step1: according to equation (1), standardized processing the indexes

$$F_j = 1 - (x_j - x_{j\min}) / (x_{j\max} - x_{j\min}) \quad (1)$$

Among them, F_j is the standard value after normalization processing x_j , $x_{j\max}$ is the maximum value of the index x_j . $Y = (y_{ij})_{m \times n}$

Step 2: index weight

Get standard matrix $Y = (y_{ij})_{m \times n}$ by standardized

processing the decision matrix $X = (x_{ij})_{m \times n}$, and then normalize the data

$$p_{ij} = \frac{y_{ij}}{\sum_{i=1}^m y_{ij}} \quad (1 \leq i \leq m, 1 \leq j \leq n)$$

Calculate the entropy of index j:

$$e_j = -k * \sum_{i=1}^m p_{ij} \ln p_{ij} \quad (1 \leq j \leq n)$$

Calculate the diversity factor of index j. For the index j, the greater the difference of the index value, the greater the influence on the evaluation, the smaller the entropy value. Therefore, we definite diversity factor is:

$$g_j = 1 - e_j \quad (1 \leq j \leq n)$$

Calculate the weight of index j is:

$$b_j = \frac{g_j}{\sum_{j=1}^n g_j} \quad (1 \leq j \leq n)$$

a_j is the AHP subjective weight, introduce regulatory factors γ , then the comprehensive weight w_j is :

$$w_j = \gamma * a_j + (1 - \gamma) * b_j$$

Among them, dynamic factors γ can be dynamically adjusted according to the assessment results. The weight vector of each evaluation index can be expressed as:

$$W = (w_1, w_2, \dots, w_n)$$

3.1.1.3 Fuzzy assessment of privacy risks

Step1: Defining comments set

We use the five-level comments (lowest, lower, medium, higher and highest), and the rating scale is as follows:

Lowest	Lower	Medium	Higher	Highest
minimal damage	smaller damage	ordinary damage	serious damage	grave damage

Step 2. Establish evaluation matrix

First, evaluate the individual risk factors $u_i (i = 1, 2, \dots, n)$, and then get fuzzy evaluation set

$$R_i = (r_{i1}, r_{i2}, \dots, r_{im}) . r_{ij} \text{ means one risk vector } u_i \text{'s}$$

subjection degree of comments set vector v_j in this equation. Single factor fuzzy evaluation is to determine the risk factors set U's subjection degree of various factors in the evaluation set V, then establish a fuzzy mapping relation from U to V, and we get subjection degree matrix

$$R = (r_{ij})_{n \times m}$$

Suppose that for the factor u_i , there are q_{ij} v_j comments, and subjection degree r_{ij} is:

$$r_{ij} = \frac{q_{ij}}{\sum_{i=1}^n q_{ij}}$$

Step3: Fuzzy comprehensive assessment is a compound of weight sets $W = (w_1, w_2, \dots, w_k)$ and evaluating matrix R. It can be shown as:

$$C = W \cdot R = (w_1, w_2, \dots, w_k) \cdot \begin{bmatrix} r_{11} & r_{12} & \dots & r_{1m} \\ r_{21} & r_{22} & \dots & r_{2m} \\ \dots & \dots & \dots & \dots \\ r_{k1} & r_{k2} & \dots & r_{km} \end{bmatrix} = [c_1, c_2, \dots, c_m]$$

Using the fuzzy evaluation vector C to determine the evaluation results, the commonly used criterion has the maximum membership and weighted average principle. Then calculate by using the weighted evaluation principle:

$$P_1 = \sum_{j=1}^m v_j c_j / \sum_{j=1}^m c_j$$

Among them, v_j is the level of privacy risk assessment, and we call P the transaction coefficient.

point	0~0.2	0.2~0.4	0.4~0.6	0.6~0.8	0.8~1
level	lowest	lower	medium	higher	highest

3.2 The cost of privacy model

3.2.1 Establishment of the model

Definition 1: $L_i (1 \leq i \leq k)$ is privacy protection risk level, where L_k is the highest level, and the level set of privacy protection is $\{L = L_1, L_2, \dots, L_k\}$. $V_i (1 \leq i \leq k)$ is the intensity of privacy protection, that is, $V_1 < V_2 < \dots < V_k$. Due to intensity of privacy protection is relevant to privacy protection budget \mathcal{E} , therefore we can infer the scope of each level corresponding. We set the scope of L_1 corresponding \mathcal{E} here $[0, d_1)$, L_k corresponding \mathcal{E} value range for $[d_{k-1}, d_k]$, with $d_i (1 \leq i \leq k)$ increases with the increase of k.

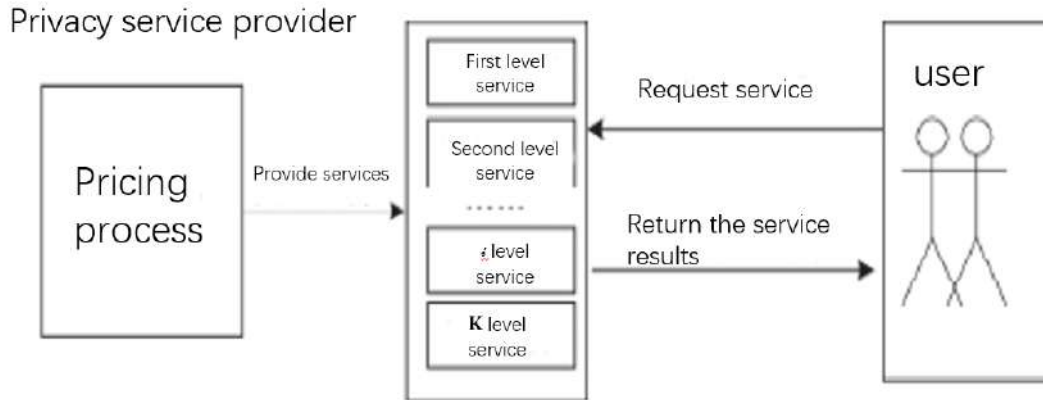
The risk level of individual privacy can be judged according to the classification standard of privacy risk.

Definition 2: Set matrix $V_{ij} = b_j * V_i (1 \leq i \leq k)$ is the value of the privacy service level corresponding to the privacy service level of the bidder who bid b_j .

Definition 3: Set S as a collection of rate of privacy protection services, and B is the collection of bidding price, then V_B^S is the sum of the privacy value of all bidders.

3.2.1.1 Pricing institution

Assume there are enough bidders, then auction these k kinds privacy protection service rate, and the bidding price of k kinds of bidders is b_j , and... B_k . In combination with VCG mechanism, protection service providers will allot a protection rate, and then pricing each rate according to VGG to maximize their own interest.



3.2.1.2 The optimal matching methods

If there is not the only solution in the process of constructing the optimal matching, privacy protection service providers can choose the most advantageous method such as binary chart theory.

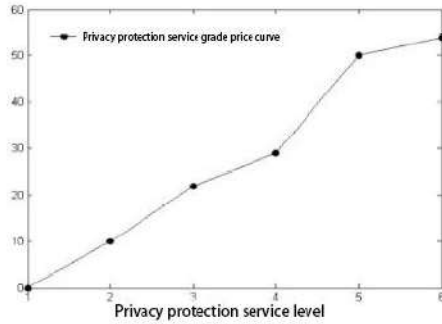
The cost for bidders is same as other bidders' loss. Assume that the optimal matching will match L_i level services to bidders who bid b_j . According to the definition 3, $S - L_i$ is the set of privacy protection service level removing L_i level, $B - b_j$ is the set of bidding price removing bidders who bid b_j . Then V_{B-j}^{S-i} is the sum of other cost of privacy, V_{B-j}^S is the sum of bidders (except bidders who bid b_j) reappraise cost of privacy. Then the VGG price of L_i rate is $m_i = V_{B-j}^S - V_{B-j}^{S-i}$, that is, each bidder's cost equal

to the increase value when the bidder does not occur.

3.2.2 Effect analysis of model

3.2.2.1 Effect of pricing

The graph shows the corresponding price curve for each privacy protection rate service, reflecting the higher the rate of privacy protection service, the higher the corresponding price, and it shows step price difference. Corresponds to the incomplete process level in the ISO/IEC 29190 standard the first level has the lowest rate of privacy protection, which basically does not realize the privacy protection function, so the pricing is 0. The fifth and sixth levels basically fully realize the privacy protection function, the privacy price is highest. The price is in line with the general law of the market, and at the same time, it is reasonable to open the price difference of each grade.



3.2.2.2 Finiteness analysis of optimal matching algorithm

We assume that the largest way to match the bidder is not unique, the privacy protection service decides the final allocation using Bipartition graph method. To show that the matching process is bound to end, define the buyer's potential energy E_b as the maximum reward for a bidder, seller potential E_s is the current price of a service rate. E_a is the sum of the potential energies of all the participants, that is, $E_a = E_s + E_b$. At the beginning of the match, $E_s = 0$, E_b is its maximum value. That is to say, after each match, the E_a will be reduced, but the E_s get bigger, the overall $E_a > 0$, namely the value of E_a has been reduced and finally reaches a certain value greater than 0, so the matching process will end.

3.3 The pricing model of commercialized privacy information

3.3.1 Factor analysis

3.3.1.1 In terms of seller

- (1) C_k is the cost of protecting this private information for seller
- (2) V_{ki} is the actual benefit that privacy information will bring in the future for buyer
- (3) C_{k0} is the cost of transferring this private information for seller (we call it the cost of privacy roll-out).

We use cognitive distance to summarize the specific form of privacy information and the buyer's understanding degree of this privacy information.

The closer to the seller's expected, the higher profit they get, but the maximum price is actual benefit that privacy information will bring to buyer. That is:

$$C_k + C_{k0} \leq P \leq \sum_{i=1}^N \frac{V_{ki(t)}}{(1+i)^i} \quad (1)$$

$V_{ki(t)}$ is the actual benefit that privacy information will bring in the t years, i is the opportunity cost of capital (expressed as percentage).

3.3.1.2 In terms of buyer

(1) C_{ki} is the cost that the buyer needs to pay when accepting the privacy information, we call it the cost of privacy roll-in

(2) V_{kb} is actual benefit privacy information will bring to the buyer

The buyer think the price of privacy information price should between the cost of privacy roll-in and actual benefit privacy information will bring to the buyer. That is :

$$0 \leq P \leq V_{kb} - C_{ki}$$

3.3.1.3 Comprehensive consideration

Because of the existence of information asymmetry, we must find observable variables which could affect the private information trading pricing.

Definition 1: T is the trust distance, which firstly affect buyer's recognition degree of seller's expected value. The buyer's expected value will approach the seller's expected value more when buyer trust seller a lot. Seller could evaluate risk of information leakage correctly when seller trust buyer a lot.

Definition 2: D is the market maturity degree. The government regulations (e.g. price regulations, specific data protections such as certain records that may not be subject to the economic system) and cultural and political issues will affect trading process and results. Market maturity degree affects the cost of privacy roll-in and roll-out and the cost of protecting the privacy information for the seller.

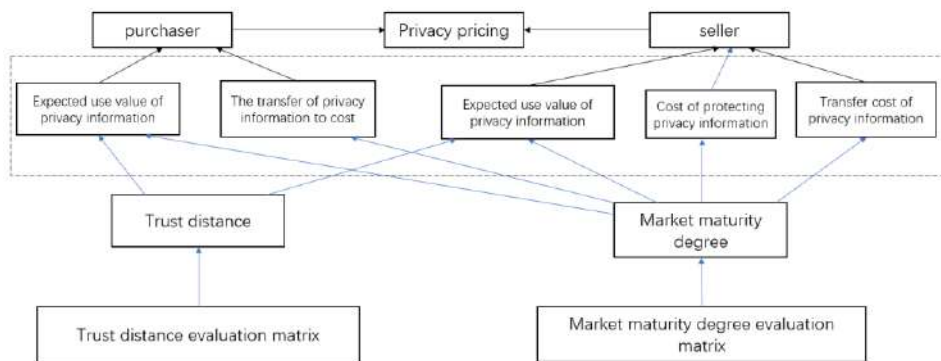


Figure 1

3.3.2 Establishment of the model

First, the trust distance must be quantitative, that is, we should make a list of the main factors and score them according to the degree of the manifestation of these factors. Then find a parameter values by the weighted method.

The market maturity degree also needs to be quantified to apply to the transaction pricing privacy information. The main factors that reflect the market maturity degree can be found in the government regulations and cultural and political issues.

Privacy information of the actual transaction price should be determined by two parts, one part is the amount of labor before the transaction, the other part is the labor of transfer. Therefore, the actual transaction price should be met (1) and (2) the required conditions, and determined by the trust distance and market maturity degree. In the first part, we use the function of knowledge pricing 错误:未找到引用源。. Since the amount of labor transferred is linearly related to the increase of the market maturity degree, therefore, the value compensation should also be related to the market maturity degree. Based on the above analysis, we can construct the following privacy information transaction pricing formula:

$$P = f(T, D) = \frac{T}{2^{\log_2(1/p_{ji})}} \times V_k + \lambda \times t \times 2^{\log_2(1/p_{ji})}$$

$$= p_{ji} TV_k + \frac{\lambda t}{p_{ji}}$$

(3)

V_k is the price quoted by the future value of PI (discounted) λ is the social average hourly wage. t is the labor time of transferring. The evaluation factors of trust distance and market maturation degree are quantized as neutral values.

First order partial derivative of (3) for D

$$\frac{\partial P}{\partial D} = -\frac{TV_k}{2^D} \ln 2 + \lambda t 2^D \ln 2$$

(4)

Second order partial derivative of (3) for

D

$$\frac{\partial^2 P}{\partial D^2} = \frac{TV_k}{2^D} (\ln 2)^2 + \lambda t 2^D (\ln 2)^2 > 0$$

(5)

So, when $D = \log_2 \sqrt{\frac{TV_k}{\lambda t}}$ or $p_{ji} = \sqrt{\frac{\lambda t}{TV_k}}$,

P has the Minimum value: $2\sqrt{\lambda t TV_k}$. Here, $\lambda t \leq TV_k$

Because if the cost of transferring privacy information is higher than the use of privacy information itself, this kind of privacy information is not necessary to transfer.

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Teachers' Professional Development in Newly-Built Universities in West China

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Abstract: Based on higher requirements on teachers' professional competence in universities, the author argues that teachers' development is influenced by various factors. In this paper, author analysed dilemma teachers have to confront and put forward some suggestions. First, government should increase the funding and policy makers should improve necessary working conditions: an effective communication platform, guarantee system, evaluation system and a mechanism for teachers to participate in decision-making. Second, stimulate teachers' self-professional development consciousness and enhance their motive and drive. Third, major development should integrate with modern educational technology.

Key words: newly-built university, teachers' professional development, life-long education

1. Introduction

Since 2000, to make higher education be more popular, Chinese government has called for the integration of existing educational resources to form new universities. The new university is promoted from the junior college level. According to their background, the newly-built universities can be divided into three kinds: the merging of higher vocational and technical colleges, normal colleges supported by teacher education, adult colleges. Till now, one third of the universities are newly established. It is an important part of China's higher education. In such universities, the practice of undergraduate education is short and the foundation is weak.

In past 20 years, the local economy in west China developed slowly and quality of education is not so high. Many undergraduates from newly-built universities lack professional advantages which lead to employment difficulty. Now, with the rapid development in west China, reformation is taking place in every field. The level and the quality of education are crucial to the overall development of China's higher education and the construction of education power. Higher education has shifted from scale expansion to connotation improvement. So newly-built universities have to explore new direction for development. The newly-built university must optimize subject structure arrangement, further course reformation, reform teaching model, innovate personnel training, promote the quality-oriented education in an

all-round way, train students' in innovative spirit and solving practical problems, combine education, research and production closely to promote service in local economy. During the transformations, the educational philosophy changed from "discipline-oriented" to "employment-oriented", the intellectual training from academic talents to advanced technical talents. Teaching ideas focus more on skills and technology application than theory. The joint education between colleges and enterprises become normal state, social involvement and supervision is introduced into the open education^[1]. All these are based on higher requirements on teachers' professional competence in universities.

In the process of connotation improvement, more attention should be paid to the construction of teaching staff, especially the level and status of teachers' professional development. After all, it is the warranty for good education. The newly-built universities are supported by local finance. So they should serve for local economy. In universities, teachers enhance professional competence through continuous learning, practising and adjusting.

2. Research foundation

Combined with the author's years of working practice, this paper is mainly based on literature research method.

Since 1999, expanding enrollments have led to decline in teaching quality in universities. Universities came to realize the importance of teachers' professional

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development. Our researches on this have a relatively late beginning than developed countries and now we have already gained some achievements. For years, the research and discussion of Chinese scholars have expanded the content of the teachers' professional development in university. The connotation and mode of development are discussed systematically. From relevant researches at home and abroad, teacher professional development consists of the accumulation and development of knowledge, the improvement of information technology, the transformation of professional attitude and spirit and so on. Teachers' professional development can be understood from three aspects: the development of knowledge and skills, self-understanding and ecological change (Hargreaves, 1992). The accumulation of knowledge, the perfect skills and professional affection are three basic qualities. Teachers' professional development emphasizes lifelong learning: pre-service and in-service teachers training. Age is closely related to teachers' professional development. From the perspective of cognitive development and personality development, the scholar analyzed the process of teachers' professional development. Based on Fullan's teacher concern theory, research on teacher development can be divided into five categories. They are attention stage theory, stage theory of career cycle, stage theory of psychological development, stage theory of teachers' socialization development and synthetic stage theory.

There is comparison and analyse of professional development policies and measures of university teachers between the United Kingdom and the United States. The discussion of professional development mainly focuses on the purpose function and influencing factors. However, academic circles pay little attention to the professional development of teachers in newly-built universities in west China. Beyond these specific studies, we have no understanding of how the teacher in newly-built universities improves his/her professional competence; nor how the teacher combines the professional knowledge and teaching skills to become an expert teacher.

3. Status analysis

Emotion and cognition, self and social environment, ethical judgement and purposeful action are all intertwined in the complex reality of professional development. In times of educational reforms, aimed at changing teaching practices for the better, these complexities are brought to the light even more prominently [2].

3.1 External factors

Teachers' professional development depends on political and social surroundings.

The educational investment that different universities get from the nation is of great difference. In west China, the economy is not so developed. Such universities can get less financial support from government. Their history in undergraduate education is short. The quality of students is not high. The newly-built universities are forced to make progress by the trend. From the surface, these universities have set up a series of administrative systems for undergraduate education. In fact, the concept and philosophy of education has not come into being completely and it will take a long time to internalize the philosophy of education through the whole staff. Many professions have no clear orientations of talent cultivation, and the quality of teaching is relatively poor. In educational reforms, great changes are taking place. Teaching model and management must adapt to new changes. Policy measures and imposed educational reforms that were not congruent with the teachers' deeply held beliefs about good teaching and teacher, but from which teachers felt they could not escape, clearly contributed to the experience of vulnerability and emotional disturbance [2].

In newly-built universities, the thinking on teachers' professional development is instrumentalized and utilitarianism, rules and regulations are rigid, static and authoritative. These universities not only serve local economy, but also are controlled by local economic situation. The shortage of education investment from government leads to apparent contradictions between universities' development and limited teaching sources. All these put such universities in difficult situations. Compared to the key universities, the newly-built universities are weak both in hardware and software conditions, but the evaluation system is consistent with the key universities. To improve scientific research level, the newly-built universities attach importance to scientific research ability while neglect teaching level and achievements. Research achievements are linked to many benefits, such as promotion, professional title evaluation and some other benefits. Professional development is more for the purpose of increasing income and improving economic conditions. Economic benefits are the yardstick to measure professional development.

Under the circumstances of educational informationization, teachers must keep up with the great changes. The emergence and continuous development of information technology has promoted the progress of human society, and also put forward new requirements for the professional development of college teachers, especially young teachers^{[3] [7]}. Teaching resources are upgrading, the classrooms become multi-media

laboratories, in which net resources, simulation teaching, stereoscopic vision are used. Teachers should not only master rich teaching knowledge and subject knowledge, but also master the application skills of information technology. As the development of internet, the students could learn by many ways. Nowadays traditional teaching can't attract students' attention. They are interested in MOOC, flip class and other quality teaching. No matter in class or out of class, the role of university teachers has changed greatly. They are no longer the traditional teachers to transfer knowledge. In class, the teacher's explanation should stimulate students' desire for knowledge and initiative in learning. After class, the extracurricular guidance lays emphasis on the combination of theory and practice to cultivate students' ability to analyze and solve problems. Applying information technology flexibly are essential to organize knowledge scientifically and exchange effectively. Teaching requires more effort.

Compared with those teachers in elementary and secondary schools, the teachers in universities have low sense of achievements. Close emotional understanding with their students is a good foundation for teaching and learning. Many elementary teachers feel rewarded when students show affection to them. As a teacher in university, society demands more from them. Their pressure is not only from students study, but also from their professional research and career development. Teachers, especially the young teachers, are exhausted and prone to burnout due to the demands of constant curriculum task, research task and absent of mentoring support. The sense of job burnout not only affects physical and mental health, but also undermines their interests in research and teaching.

3.2. Internal and personal factors

Firstly, the point of view on professional development is narrow, which affects teachers' professional development and the quality of undergraduate education directly.

It is very biased to believe that improving the teachers' professional competence could be realized by receiving higher education, higher degree and publishing high-quality articles. More and more postgraduates with Doctor's degree join in higher education. In fact, the teaching result is not ideal as we expected. Researchers found that teacher's comprehensive quality such as the teaching emotion, teaching morality, teaching art and skills are ignored, which are essential in good teaching. Nowadays more and more researchers come to realize that personal system of knowledge and beliefs about education lead to different understanding of professional development. For teachers, the sense of self or sense of

identity is more important to reveal a person's expectations about the future. It is self-image and self-esteem that made it possible to construct his/her professional program, his/her task and duties in order to do a good job^{[4] [8]}.

Secondly, in professional development, age, gender, career stage and family are important factors. The connotation of professional development is various multi-layered.

Teachers' gender, subject specialty and age to change can all affect how they response to professional development. Among these influences, the most important is teachers' age, as well as their stage of career. Ageing is not just a process of chronological accumulation---a gradual accretion of wisdom and weariness^[5]. In the first few years of their career in teaching, new teachers are typically finding their feet as professionals. They are trying to establish their basic confidence and competence as professionals. They had uncertainty of their job and tenure and were concerned about whether they are going to stay. To mid-career teachers, current job and curriculum conditions were the familiar one they knew. Under economic and work pressure, they remain passionate about their work and flexible enough to respond to changes in a broadly positive way. Many teachers in later career, maybe they are experienced and not interested in learning new things. So if reform and improvement efforts are to be more successful and sustainable, the educational leaders and administrators must think over the process of teachers' growth and the law of professional development. Professional development is not only embedded in space, but also in time. Scientific, rational and humanized management will arouse the teachers' enthusiasm and initiative of professional development.

Thirdly, the professional development path is various and non-duplicated. It is difficult to design a unified professional growth path for university teachers: the professional background is quite complicated, teachers with different majors have different standards and expectations for professional growth, there are various working modes.

Without fixed growth model for profession, university teachers have to explore appropriate ways by themselves. And the successful case can't be duplicated. Their development are connected with the opportunities provided by university. In any university, the opportunities for professional development are not equal. To be characterized, leaders usually put emphasis on their dominant themes and majors for a long time. So some relevant teachers can take advantage of these opportunities. Newly-built universities attach importance

to teachers' further education and training. At present, various institutions or trade associations offer relevant training and continuous education for university teachers. And most teacher training agencies are just for profits. It is impossible to realize the promotion and development of teacher's profession by such short training. In national training plan, teachers in elementary or secondary schools are assigned to attend the training. While, the teachers in university, they themselves decide to attend the training course or not, according to the demand of personal performance evaluations. The Ministry of Education has also provided many opportunities for teachers to leave posts for a long time to visit and attend various professional trainings in top universities abroad and in China. Though the program has lasted for quite a long time, only a small number of teachers can apply for the program.

Fourthly, being lack of favorable environmental support and institutional guarantee, teachers' professional development is full of difficulties. The structural and cultural working conditions in university play a key role in the process of teachers' profession.

Culture of teaching, a new perspective for the study of professional development of teachers, is concerned about the behavior behind the beliefs and value^[6]. In teachers' relations with colleagues, lacks of closeness in relationship or of similarity threaten the base for effective emotional understanding. Few teachers sincerely expect peers to attend their lectures, they don't want to expose their own problems or share their own experience. They experience confusion, misunderstanding, frustration by themselves. Such hidden culture and the closure of teacher culture are rooted in their values and hinders the professional development of teachers seriously.

To improve the teaching ability of young and middle-aged teachers, newly-built universities and provincial department of education hold annual teaching competition. Young people are very enthusiastic and energetic at beginning. By attending the competition, cooperation and exchange among teachers promoted teaching practice in class. As days went on, the enthusiasm does not last long, teachers are reluctant to attend such competition. During such contest, teachers need to invest a lot of time and energy in pregame preparation and post-game summary. And many complex affairs lead the university teachers not to participate actively in these projects. In the contests, the teacher's teaching is more like a show. Perfect teaching design cannot be the normal in teaching. Its role is limited. At present, in newly-built universities relevant systems have not been improved effectively. Teaching in university is a

stressful occupation^[9]. Teachers often felt powerless, questioned by others and emotion exhausted. The burnout seems to have a negative impact on teachers and also on their professional development.

4. Practice strategy

Understanding the adverse factors from above aspects, and the calls for reform by policy and society, constitutes an urgent agenda for teachers' professional development. It demands the conceptual and empirical understanding of teachers' professional development on the one hand and the cultural and structural working conditions on the other hand.

Firstly, government should increase the funding. At the university level, policy makers improve necessary working conditions: an effective communication platform, guarantee system, evaluation system and a mechanism for teachers to participate in decision-making. With the permission of local government, the investment for higher education should be diversified. It is necessary to spread this understanding: higher education benefits everyone and everyone contributes to education. Higher education is not just the government's business. The correct guidance of social capital investment into higher education helps to reduce government pressure.

A good cultural ecology is a fertile soil for teachers' professional development and a strong support for teachers' infiltration development. At the university level, carry out self- construction actively to clear obstacles on one hand and get more policy supports from the superior authorities to broaden development paths on the other hand. Regardless of the teacher's opinions, many top-down policies are unscientific and the effects are always below expectation. In the era of network, education authorities should take full advantage of internet resources. By building platforms, multiple and high-quality network resources and information could be presented and shared. And teachers could learn and exchange ideas on-line efficiently. The harmonious working environment is another important factor in teachers' professional development. The structural and cultural working condition in university are neither static, nor eternally given. They develop and change, both influenced by the circumstances and by interventions of teachers^[2]. The campus cultural construction concerns material and organizational conditions, the quality of interpersonal relationship, the prevailing definition of good teaching and one's self-understanding. As a dimension of management system, evaluation system guides teachers' common cognition and the direction of advance^[10]. Reasonable evaluation system leads a good

circulation for the development of both teachers and university. They have a shared idea that doing a good job means being effective as a teacher and experiencing satisfaction and fulfilment. A pleasant ecological environment for teacher forms the dynamic reality in which teachers have to live their professional lives^[11]. Good cultural atmosphere will meet the development needs of teachers and society. Because its about “more than a feeling...”and in the end it is about individual development, good education and university improvement.

Secondly, stimulate teachers’ self-professional development consciousness and enhance their motive and drive.

The government must attach great importance to the development of local newly-built colleges and universities. Teachers’ professional development is the process of individuals and personalities. Professional development is not accomplished at one stroke, and even more not once for all, it depends on teachers’ self-understanding and pursuit. Affectivity is of fundamental importance in the course of development, only when teachers have strong will of academic promotion, could the job be transferred into career. In the process of teaching practice, teachers pay more attention to who I am, where I want to go, what kind of person I want to be. Universities should guide teachers to define the goals of their own professional development in the reflection of self-identity. The strengthening of teachers' consciousness is the good beginning of their professional development.

The overall professional development includes not only the enhancement of professional knowledge and skills, but also the improvement of professional quality and self-consciousness. This is a continuous and dynamic development process. It is not dependent on external technology, but a process of self-transformation and self-development through reflection. In university, due to the differences in students' learning ability, the teaching is full of uncertainty and complexity. Only by re-examining their own teaching through continuous reflection, could teachers find problems and deficiencies, so that the teaching experience can be refined and sublimated. During the self-development, it is very important to keep professional knowledge and skills in step with professional affection. It is known to us that professional status and social status are closely linked. The unique sense of self which every teacher has is socially grounded. With this thought, self-development is full of energy, the career will enter a higher level step by step.

Thirdly, in the era of information technology, only by integrating their majors with modern educational

technology can teachers acquire and accumulate practical knowledge. It is the process of teacher's professional development.

In the information technology era, knowledge is updated frequently, and teachers' professional development is not only the accumulation of subject knowledge, but also the improvement of teaching art and skills^[8]. School-based teaching and research is the basic field for teachers to acquire practical knowledge. Cultivating talents with morality is the foundation in higher education. The professional development of teachers should not only meet the demand of exam-oriented education, but also focus on the needs of students. To meet the demand of quality education, higher education should cultivate students' essential character and key ability to adapt to society. The teaching content is not a single subject knowledge, but the multidisciplinary knowledge that students can understand and experience the fusion in social and natural activities ^[12]. To train high-quality undergraduates for the future, a series of innovations must be introduced. The continuous promotion of teachers’ academic and teaching abilities make educational informization become normal. With the improvement of the teaching competence, the personalized growth and development of teachers professional will be promoted effectively at the same time.

Information technology is also very helpful to the improvement of teacher team. With the coming of information age, resources sharing is another effective way to promote team’s professional development. The sharing encompasses a knowledge aspect, an operational aspect and an experiential aspect. In the team’s cooperation, teachers develop what we have called “micropolitical literacy”, the competence to understand the issues of power and interests in university. This understanding as well as their professionalism is crucial in the development of teachers’ profession.

5. Conclusion

Though it is difficult to set a criteria to measure teachers’ professional development, teachers’ professional development is an effective way to to improve teaching quality and comprehensive strength of university, which is becoming the primary task of newly-built university. There are commonness and individuality in the professional development. However, teachers in different stages of development need different strategies, in this paper this aspect of the research is particularly inadequate and there is no useful way to evaluate the effects of factors.

Teachers' professional development is teacher re-education, which has been considered weak among higher education degree programs, one that lacks high standards and strong contacts with field. Now, however, teacher education programs are improved in many colleges and universities through a variety of efforts. These include: revised, challenging standards for accreditation of teacher education; the growth of professional development schools; and emphasis on a deeper knowledge base for teachers as well as demonstration of competence. University, as the main place for teachers to grow and mature professionally, what supports should be provided for the professional development of teachers? However, much remains to be done.

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Three errors of "Yanxi's strategy" plot

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Abstract: The drama series "Yanxi's strategy" set off a frenzy of movie-watching, but there are three mistakes in the plot: the plot space is limited in the palace, the narrative Angle is single plane, the lack of deep meaning; the characters lack a clear sense of independence, slave personality is serious; the conflict between the positive characters appears in the form of conspiracy and intrigue, with poor ideological guidance. These misunderstandings in the strategy of the jubilee are also the major mistakes in the current domestic palace fighting dramas.

Key words: Space, Slave Personality, Conspiracy

Introduction

The TV series "Yanxi Strategy" premiered on July 19 this year in Iqiyi. Its unique painting style, colorful characters and compact plot immediately caught the audience's eye and became this year's hot drama series. This palace fighting drama includes the splendid palace halls, beautiful concubines and maids, and the colorful royal gardens, which makes the overall effect is enchanting. The palace plays take the contention of concubines as the story clue, and the writers can compile countless series more easily in succession. The vast audiences, especially those with low cultural level, who kill the time by watching TV plays, are very welcome to this kind of palace drama with beautiful pictures, simple plots and no need for deep thinking.

However, TV plays are artistic products. Art comes from life, but must be higher than life, which requires the creators to make elaborate refinement on the basis of life, so that the works have deep aesthetic power. Li Zehou, a famous contemporary aesthetician, put forward the aesthetic principle of "inherent natural humanization". According to his principle, the aesthetic feeling of art can be divided into three layers: pleasant to the eyes, pleasant to the heart and pleasant to the spirit. The pleasure of the ear and the eye is based on the physiological basis, but beyond the physiological pleasure, is the lowest level of aesthetic feeling, is a kind of perceptual knowledge. Pleasant to the heart is to cultivate aesthetic attitude and value concept on the basis of perceptual cognition. Pleasant to the spirit, on the basis of morality, achieves a realm beyond morality and is the highest level of aesthetic feeling. "Yanxi Strategy" has exquisite pictures, excellent production and excellent audio-visual

language. It reflects the creative attitude of rigorous and conscientious creators, but does not have profound ideological connotation. Therefore, the aesthetic experience of the audience in Yanxi Strategy only stays at the first level of "pleasure to the eye", cannot rise to the second level of "pleasure to the heart", and cannot reach the third level of "pleasure to the spirit". This paper holds that there are three major mistakes in the plot of Yanxi Strategy.

1. the plot space is limited in the palace, the narrative angle is single and flat, lacking in deep meaning

Seventy episodes of Yanxi Strategies, the plot space has always been confined to the palace, the number of palace drama is only two: Before Wei Yingluo entered the palace, he axed the coffin in her home. After Er Qing married Fu Heng, a small number of Fu Heng house plays appeared. The two spaces are also similar to those in the palace. The former is an indoor play, which can be filmed in any room of the "Palace"; the latter is an aristocratic play, which can also be filmed in any palace. In terms of pictures, the plot settings like "Yanxi Strategy" make the pictures of TV always in the same state: From beginning to end, there are golden roofs, quadrangular Palace walls, pavilions, and garden corridors. Lack of changing pictures and space makes the space of the whole play in a flat and single state. Even from the perspective of "entertainment", this consistent space will produce aesthetic fatigue. The narrative space of "Langyabang" is broad and three-dimensional, linking the inside and outside of the palace, and blending history with reality. In the TV picture, there are not only the continuous and magnificent palace hall, but also the majestic and precipitous strange mountains and rocks, as well as the

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magnificent rivers, lakes and seas. Earlier Return to the "Huanzhugege", the narrative space is from the court to the folk, from the south of the Yangtze River to the desert, from the gorgeous house to the lane, on the screen, there are not only magnificent palaces and palaces, but also bustling streets and alleys of the capital, as well as dilapidated and gray folk grass houses. The narrative space is vast and lively. At the beginning and end of the current TV series, most of the typical pictures are selected from the TV series. The audience can see the main plot and the main space contained in the whole play from the beginning. The creator of Yanxi Strategy obviously realized the limitation of the narrow space of TV series. In order to avoid the visual fatigue of the audience, he carefully created the film's beginning and ending, and used ink-like character modeling to bring fresh aesthetic feeling to the audience. This artistic ingenuity is commendable, but it cannot conceal the narrow narrative space of TV dramas.

The narrow narrative space in Yanxi Strategies not only brings the audience aesthetic fatigue, but also show the narrow narrative space. This TV play confines the narrative space to the palace, which is conducive to saving money and promoting the speed. However, in terms of artistic value, such a narrative pattern directly limits the narrative vision of the creator and forces him to fix the narrative in the palace. Emperor Qianlong's life in the play is to deal with concubines who are striving for his favor. Only a small number of rival plays with Fu Heng show his emperor's professional characteristics side-on. The narrative way is through the words of several eunuchs, reporting several wars and promulgating several intentions. The whole play does not show the battlefield positively, and its narrative focus is always focused on the palace. At the same time, the excellent court drama "Biography of the Mingfei Female Doctor" has much more narrative space than "Yanxi Strategy". With the advent of war, this emperor personally fought outside palace, which shows the magnificent and severe battlefield. The emperor's eulogy in Yanxi Strategies shows the warmth and fragrance of palace chambers. When natural disasters came, the emperor in the biography of a woman doctor walked outside the palace, sharing hardships with the victims and fighting side by side with the generals. The emperor of Yanxi Strategies sat in the palace steadily, drank with beautiful women, and separated thousands of miles from generals and soldiers. By contrast, which the narrative pattern of the two is better is clear.

"I think it's up to the screen dramatist to create the image system of the film first, and then the director and the designer to complete it. It is the writer who first imagines the place of all images, that is, the material and social world of the story. When we write, we often find that we have begun

this work unconsciously and that an image pattern has entered our description and dialogue by itself." The space of TV plays is the place where the writers design all the images when they create the scripts. Excellent playwrights always give multiple meanings to the space of the plays. It is not only the social world where the images depend on for survival and activities, but also the metaphysical symbolic meaning. The plot space of Yanxi Strategy is confined to the high wall of the palace, which directly limits the freedom and openness of the characters' action, let alone the creation of poetic image system. Obviously, the creators of Yanxi Strategies has not yet thought of integrating the character image with the character space, making the space have symbolic meaning and deepening the consciousness of the character image. This point can be seen from the name of the palace where the concubine lives in Yanxi Strategy. The palace where Queen Fucha Rongyin lived was called Changchun Palace. She was gentle and kind-hearted. Because she repeatedly tolerated, she became grief and indignant. She committed suicide before she reached middle age. Her life was far from Changchun. The palace where Wei Yingluo lives is called Yanxi Palace. The meaning of "Yanxi" is happiness and auspiciousness. The meaning of "Yanxi" is to continue happiness and auspiciousness. Its literal meaning is full of beauty and warmth, which is totally inconsistent with Wei Yingluo's life and character. The palace where Empress Xian lived in was called Chengqian Palace, which inherited the idea of unification. This residence is a very suitable place for the emperor to live. Empress Xian was a politically ambitious person. From the very beginning, she was quietly planning. She stepped onto the throne of Empress step by step. The word "Chengqian" had a solemn and imperial connotation and was used on such a negative character as Empress Xian improperly. The beautiful Shun concubine Chenbi comes from the grassland. She comes to the Forbidden City with the determination of revenge. The palace she lives in is called "Lijing Palace". The layout of the palace has no extra features, and has no connection with the character's identity and personality. Excellent works of art, when setting the environment and space of characters, always endow space with characteristics consistent with characters; give space special symbolic meaning, thus extending the shaping of characters. All the characters in A Dream of Red Mansions are perfectly integrated with their living space. "Xiaoxiang Pavilion" means green bamboo, which complements Lin Daiyu's proud personality. "Yihong Courtyard" means beautiful flowers, which consistent with Jia Baoyu's romantic personality. The exotic fragrance of strange grass in "Hengwu Courtyard" implies Xue Baochai's dignity and self-esteem. By contrast, the living environment of the characters in Yanxi Strategies is separated from the

characters, and their narrative angle appears flat. The lack of deep implication makes the TV play lose its charm which makes people cannot recall repeatedly and the possibility of becoming a classic work.

2. The characters in the play lack sober independent consciousness and the slave personality is serious

"Yanxi Strategy" describes the Court Competition during the Qianlong Dynasty. The specific time and space of the play limits the ideological consciousness of the characters. The inherent social morality of the feudal society limits the shaping of the characters. It is inevitable that the characters in the story have certain slavery. However, the creator of TV plays is a contemporary, and the audience of TV plays is also a contemporary. When creating TV plays, the creator should reflect on and sublimate the characters in line with the theme of the times, especially the positive protagonists in the plays, who should show the personality characteristics representing the advanced nature of history. The image of Lu Zhen, the protagonist of the excellent contemporary palace drama *The Legend of Lu Zhen*, is historically advanced. Lu Zhen is a woman of the lowest class. After entering the court, relying on her own struggle, she rose from a fourth-class court girl to a court official by passing the promotion examination at different levels. In the bloody court, Lu Zhen has a clear sense of independence. She refuses to become a man's vassal, improves herself through learning, and finally conquers emperors and ministers by her outstanding ability, and becomes a generation of female prime ministers. Lu Zhen lived in the Northern Qi Dynasty, several hundred years earlier than Wei Yingluo, the protagonist of *Yanxi Strategy*, in the Qing Dynasty. However, Lu Zhen embodies the rare self-reliance and awakening of women in that era. She is self-reliant, not inferior and not arrogant. She distinguishes herself from other ministers with her outstanding talent and becomes a heroine among women. Similarly, Tan Yunxian, the concubine in *The Biography of a Female Doctor*, also has a sober self-consciousness. Tan Yunxian studied medical books from an early age. Her father prevention cannot stop her studying and loving medical science. After many hardships, she still persevered in researching medicine, absorbing all other's strengths and improving her medical skills. After Tan Yunxian fell in love with Prince Zhu Qiyu, he firmly expressed his desire to practice medicine forever to his lover. After entering the court, Tan Yunxian Kaotai Hospital wrote medical books and conquered people with his talent, becoming the six-grade Minister of Tai Hospital. At the beginning of the war, Tan Yunxian requested as a military doctor to treat the wounded soldiers. As a prisoner of war, Tan Yunxian used his own medical skills to treat the enemy

soldiers and in exchange for food for slaves. After returning home, Tan Yunxian was named Princess Mingfei. She disdained to compete for favor in the rear palace, but trained a team of female doctors in Tai Hospital. She showed her talent when the plague came and saved the lives of hundreds of surnames. Tan Yunxian is deeply loved by two brothers, Zhu Qiyu and Zhu Qizhen. She never loses herself in the love of men and always sticks to her ambition and personality. Although Wei Yingluo was endowed with such personality traits as wisdom and courage by the creators of *Yanxi Strategies*, which made this character different from the traditional women who were gentle, obedient, quiet and beautiful. However, Wei Yingluo's wisdom and rebellion are always confined to the level of "competition for favor". She never thought of using her wisdom to benefit the people. From beginning to end, she always served the emperor. At the beginning of his entrance to the palace, Wei Yingluo used ingenious tactics, with superb embroidery skills, won the favor of the queen and stepped up to become the empress's intimate maid, paving the way for exploring her sister's death. After the queen committed suicide, Wei Yingluo, in order to revenge the queen, tried hard to approach the emperor, became the emperor's concubine, relied on the emperor's power, and eventually eliminated all political enemies and rose to the top. Wei Yingluo has always regarded herself as the slave of the emperor and attached to the emperor's power as the foundation and weapon of her own foothold, which is a thorough slave consciousness.

Fu Heng, the positive protagonist of *Yanxi Strategies*, has a prominent slave personality. As a minister of that era, Fu Heng's patriotism is justifiable, but Fu Heng's "loyalty" is foolish loyalty and even loses himself and judgment. It's acceptable that if Qianlong loved Wei Yingluo and forced the separation of Fu Heng and Wei Yingluo, so Fu Heng was forced to accept them. After all, the emperor was also human and had the right to love beautiful women. Fu Heng's wife Er Qing was adulterous with Qianlong, and made Er Qing pregnant. After knowing the facts, Fu Heng was still a loyal minister of Qianlong without complaint or regret, which showed that Fu Heng was a complete slave personality. Fu Heng is adept with both the pen and the sword and has outstanding military achievements. However, in his deep heart, he thinks that he is not an independent individual, but a servant of the emperor. All his life and death, honor and disgrace, love and hate are decided by the emperor. The emperor's younger brother raped the palace girls and framed Fu Heng. As the head of the palace guard, Fu Heng not only did not prove his innocence, but also was honored for being used by the Royal family. In front of the imperial power, Fu Heng was not an independent individual, but a slave who lost his self and personality. Fu Heng's sister-in-law, Queen

Fucha Rongyin, a family with outstanding military achievements and the honor of the mother of the empress palace, has no independent self-esteem and personality. Fucha Rongyin lived a short life only for the emperor. She did not have her own love, hatred, honor or disgrace, nor did she have her own ideal and dignity. It was not respect and love that Fucha Rongyin gave up herself in return, but a double betrayal of love and friendship. In despair, she ended her miserable slave life by jumping from a building and committing suicide. "Of all those who lack freedom, slaves are the most subordinate, because slaves are those who serve or bind to another person, or even violate nature." Wei Yingluo, Fu Heng and Fucha Rongyin in Yanxi Strategies are the positive heroes. They all tie their destiny to the emperor tightly. They all have deep-rooted slave personality in their hearts. It is not advisable to vigorously advocate such a positive person full of slavery, lacking the advanced nature required by the times.

3. The dramatic conflicts of the positive characters appear in the form of conspiracy and trickery, and the ideological orientation is not good

"Without conflict, nothing in the story can move forward. In other words, conflict is to storytelling, as sound is to music... The conflict law is not only an aesthetic principle. It is also the soul of the story." Teleplays must use conflict to promote the plot and attract the audience, but the settings of conflict can also be divided into three grades. The conflicts in Kangxi Dynasty take the magnificent politics of Qing Dynasty as the main body of contradictions, Kangxi and his officials fighting wisdom and courage, and jointly eliminating political enemies to protect country as the main conflicts. Such contradictions and conflicts are of great magnificence and intense ambition, and are of the highest quality. The conflicts in Da Chang Jin, taking Chang Jin's family tragedy as a wedge, uncovered the dark screen of the struggle for power and profit in the court, went up to the princes and ministers, and down to the ordinary people, all became the victims of the court struggle. The hero of Da Chang Jin was indomitable, broke through many obstructions and finally captured the culprit of killing his parents. Such contradictions and conflicts are intricate and exciting, which is for the top product. "Daming Dynasty 1566" takes the sharp contradiction between the emperor and his subjects, the treacherous ministers and loyal ministers as the main line, and panoramically unfolds the politics, economy and culture of the feudal dynasty. It has not only the thrilling political struggle from the court to all levels of government, but also the treacherous prophecy from the official to the mall. The contradictions in Yanxi Strategies based on Wei Yingluo's Revenge for the elder sister and used the competition among

the imperial concubines who striving for the emperor's favor to weave the conflicts. Such contradictions are not broad enough, the content is not deep enough, and the aesthetic experience brought to the audience is not long enough, so it is difficult to rank as the top grade.

The settings of dramatic conflicts in Yanxi Strategies are not clever enough, and the means used by the characters are not unique enough. There are conflicts between the positive and the negative characters in TV plays. There is nothing wrong with the use of conspiracy and trick by the negative characters. If the positive characters also use conspiracy and trick, they will not be able to establish a positive image and win the sympathy and love of the audience. "With the beginning of the story, the audience will consciously or instinctively examine the whole world and characters loaded with value, and try to distinguish between good and evil, right and wrong, valuable things and worthless things. They will try to find the center of good. Once this core is found, emotions tend to lean towards it." Wei Yingluo, the positive protagonist of Yanxi Strategies, uses conspiracy and tricks just like the negative protagonist, which makes it impossible for the audience to find the center of goodness and to determine the correct values. The same is revenge, Chang Jin in Da Chang Jin, who defeats his opponents by honing his skills, has a broad and open mind, and shows the good and honest character of the positive protagonist. Wei Yingluo's revenge in Yanxi Strategies is hideous and fierce. At the moment, Wei Yingluo intentionally sewed an embroidery needle into the collar of the emperor's court clothes, making the palace maid who changed the court clothes secretly commit a death crime. When being the maid of the queen, Wei Yingluo killed the concubine of the former Emperor Yu by lightning without solid evidence, who had been eating vegetarian food and worshiping Buddha whole life. When was a slave, Wei Yingluo encouraged the blacksmith to sprinkle boiling iron juice on the concubine Gao, which caused heavy casualties. When the emperor spoiled his concubine, Wei Yingluo poisoned Erqing without being tried in court. Throughout the whole play, Wei Yingluo, in order to achieve his own goals, does everything she can to act willfully, and his vicious degree is even worse than that of the antagonist Xian Fei. The positive protagonists of TV plays, using shameless means of revenge, will imperceptibly affect the audience's value judgment in the process of watching TV plays, and have a certain negative impact.

As a positive hero, Emperor Qianlong's performance in the play is hard to distinguish between right and wrong. It is difficult for him to become the "center of good" and to arouse the audience's feelings of respect and support. Because the narrative space is limited in the palace, it is difficult for Emperor Qianlong in Yanxi Strategies to express

his political ambition and great achievements. At the end of the play, Qianlong showed his love to Wei Yingluo, and the plot of their relative relationship showed that the main body of the play was to create a love play. However, the love between Emperor Qianlong and Wei Yingluo lacked touching power. It is understandable that Qianlong treated love disloyal, not single-minded, and excessive love and fraternity. It was Qianlong's ruthlessness that aroused the disgust of the audience. Er Qing is the empress's maid, sister-in-law. In the day of his wife's loss of his beloved son, by the opportunity of drunkenness, adulated Er Qing, so that Er Qing pregnant. After being divorced by Fu Heng, Er Qing turned to Qianlong for help. Qianlong said ruthlessly that "there is no feeling between us" and smashed Er Qing's dream. Er Qing was poisoned by Wei Yingluo without authorization. Qianlong immediately declared Er Qing's death to be suicide in public. The emperor was the culprit who trapped Erqing in injustice. He not only did not condemn his evil actions, try to make up for his crimes against Er Qing and the queen, but also cruelly pushed Er Qing to death on the contrary. Emperor Qianlong's attitude toward Chen Bi also shows his cruelty and ruthlessness. Chen Bi is a folk beauty who was found by the grassland league leader Ai Bida. He pretends to be his daughter and dedicates it to Qianlong. Chen Bi, with the pain of losing his son, designed to revenge Qianlong, Wei Yingluo, Fu Heng and others. Emperor Qianlong clearly knew that Chen Bi had an evil heart, but he played a victim's weak girl on the palm of his hand with a fake feeling. Qianlong's hypocrisy, cruelty, ruthlessness and unrighteousness towards women are not the qualities that positive heroes should show. If these positive heroes are loved by thoughtless audiences, they will inevitably lead the

audiences to a bad direction and lead them astray.

The creation of TV plays is very difficult and complicated. There are too many factors to be considered in the theme, characters, plot, language and environment. It seems to be demanding to be perfect. The creator of Yanxi Strategy is a very creative team. The details of TV plays are exquisite, the personality is fresh, the pictures are exquisite and the music is appropriate. It has a strong ornamental and interesting nature. It is a team worthy of affirmation and full of creative potential. If the creators of this play set more open space, create more novel characters, weave more clearly the conflict of plots, Yanxi Strategy will become a TV masterpiece with advanced thought and high interesting, and have a wider audience and become a classic masterpiece. These mistakes in the plot of Yanxi Strategies are also the mistakes of most domestic court dramas nowadays. At present, the creative environment of domestic dramas is very good, and the creative experience is very mature. If all creative groups are more thoughtful and strive for excellence in their creation, China will surely create world-class TV dramas and make great contributions to the revival of Chinese culture.

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Research on Coupling and Coordinating Development of Urbanization Quality and Basic Public Services at Large Regional Scale: Take Shanxi Province as an example

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Abstract: The improvement of social basic public services affects the improvement of the quality of urbanization, and the relationship between them is close and complex. Taking Shanxi Province as an example, this paper uses the method of entropy to determine the weight of indicators, and evaluates the urbanization quality and the quality of basic public services of each city, and then makes an in-depth analysis of the coupling and coordination relationship between them. The results show that: (1) The quality of urbanization and basic public services in Shanxi are generally low; (2) There is a big gap in the quality of urbanization, especially between the two poles, and the urbanization quality index has obvious hierarchical characteristics. (3) The gap of the quality of basic public services is relatively small, the development is not balanced, and it is generally spindle-shaped; (4) The coupling and coordination degree of each city is generally not high, most cities belong to the moderate and low coordination and coupling type, lacking the extremely coordination and coupling city. Further research finds that the coupling and coordinated development of urbanization quality and basic public service quality is closely related to the economic development, financial expenditure, development concept, government policy, geographical location, traffic conditions and other factors.

Key words: urbanization quality, the quality of basic public services, coupling coordination degree, Shanxi province

1. Introduction

With the continuous advancement of the new urbanization strategy in China, the quality of regional basic public services, as an important factor affecting the sound development of urbanization, has also attracted much attention. At present, China has initially established a basic national public service system covering the whole people, and various basic public service facilities at all levels are constantly improving^[1]. But at the same time, there are still some problems, such as the poor quality of basic public services, the uncoordinated development of urbanization and basic public services, which restrict the sound development of urbanization and the improvement of urbanization quality. Therefore, in the 13th Five-Year Plan to Promote the Equalization of Basic Public Services, the State Council clearly pointed out that it is necessary to establish a basic public service system that is compatible with the level of economic and social development, i.e. coordinated development with the quality of urbanization.

2. Research Ideas

2.1 Evaluation of Urbanization Quality

In order to eliminate the influence of index data dimension, it is necessary to standardize the index data. At present, there are mainly two methods to determine the weight of indicators: subjective and objective. Entropy weighting method is one of the objective weighting methods. It is to avoid the randomness of subjective weighting and overcome the overlap of information between indicators, and to assign weights to evaluation indicators. Finally, the multi-objective weighted summation method is used to obtain the urbanization quality and basic public service quality index^[2].

According to the main indicators influencing the quality of urbanization in the Comprehensive Evaluation Report on the Quality of Urbanization in China, this paper contained eight of them, including per capita GDP of the whole city, per capita disposable income of urban residents, per capita local general budget income of municipal districts, the proportion of non-agricultural industrial output value of the whole city, Engel coefficient of urban residents, per capita financial and educational expenditure of municipal districts, SO₂ emissions per billion yuan of GDP, and the income ratio of

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urban and rural residents (rural 1)

2.2 Quality Evaluation of Basic Public Service

According to the main development indicators in the field of basic public services in the 13th Five-Year Plan to Promote Equalization of Basic Public Services, and on the basis of previous studies, taking into account the scientific, comprehensive, systematic evaluation index system and the accessibility of index data, this paper identifies 8 first-level indicators covering basic public education, basic labor employment and entrepreneurship, basic social insurance, basic medical and health care, basic social services, basic housing security, basic public cultural education, and basic public services for the disabled and 27 secondary indicators of basic public service quality evaluation index system

2.3 calculation results

Coupled coordination degree model is an important model to measure the relationship between two subsystems and the elements within the two systems. Coupling degree is used to measure the degree of interaction [3]. Coordination degree is the degree of harmony among the elements of the system in the process of development. Urbanization and basic public services are two closely related systems. The coupling coordination degree model can be used to measure the mutual coupling strength and coordinated development level of the two systems. Only by realizing the coordination between them can we ensure their common development.

3. Results and analysis

3.1 Analysis of Quality Characteristics of Urbanization

From the overall score of urbanization quality, the average score of urbanization quality in Shanxi province is 0.4161, of which 6 cities have not reached the average level, more than half of the total number of cities. There is a big gap in the level of urbanization development between cities, especially between the two poles. Taiyuan had the highest urbanization quality index of 0.791, followed by Shuozhou, which was 0.719, basically at a higher level, while Yuncheng and Xinzhou had the lowest urbanization quality index of 0.178 and 0.156, respectively. Taiyuan, the highest urbanization quality index, is five times as high as Xinzhou, which has the lowest urbanization quality index.

In addition to the polarization differences, the urbanization quality index of Shanxi provinces also has obvious hierarchical characteristics. Taiyuan and Shuozhou have a higher level with better quality, above 0.7. Jincheng, which is in the third place, has dropped to 0.5, which is quite different from the index of the first two places and has obvious hierarchical boundaries. Therefore, the index of Jincheng, Lvliang, Jinzhong, Yangquan, Changzhi and Linfen is between 0.3 and 0.5, which is in the second level. Datong, Yuncheng and Xinzhou are in the third layer, with an index

below 0.3.

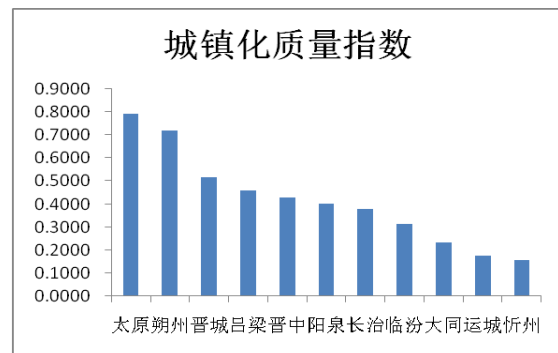


Figure 1. Urbanization Quality Index Map of Shanxi Province

3.2 Analysis of the Quality Characteristics of Basic Public Services

Because the index of basic public service quality is not as hierarchical as urbanization quality index, this paper uses SPSS software for cluster analysis to classify the quality of basic public service in Shanxi Province, which is convenient for analysis and research.

According to the score of basic public services, the quality of basic public services in Shanxi is generally low, the average is only 0.4121, and five cities have not reached the average level. The gap between cities in Shanxi Province is relatively small. The quality of basic public services in Jincheng is the best, with a score of 0.5312 and Yuncheng's lowest, with a score of 0.1781. The difference between the two is 2.98 times. Compared with the regional difference in the quality of urbanization, the quality of basic public services is much smaller. Although there is a certain gap between cities at the same level, the gap is small, and the difference between regions with higher quality of basic public services is less than 0.01. The gap between different levels is also within 0.1. Generally speaking, the gap between the quality of basic public services in Shanxi is smaller than that of urbanization.

3.3 Coupling and Coordinating Relationship between Urbanization Quality and Basic Public Service Quality

3.3.1 Coupling Coordination Degree Analysis

From the point of view of coupling degree, the coupling degree C between urbanization quality and basic public service quality is between 0.465 and 0.500. Referring to the existing research results [4], the coupling between urbanization quality and basic public services is in the antagonistic stage, which shows that the coupling degree between urbanization quality and basic public services in Shanxi Province is low, and there is still a big gap between

benign coupling.

Since the coupling degree can only prove the mutual influence and interaction between the two systems, and cannot reflect the level of coordinated development of the two systems, the coupling coordination degree is introduced to better illustrate the overall coordination degree and development level of the two systems. From the point of view of coupling coordination degree, the coupling coordination degree D between urbanization quality and basic public service quality of each city is between 0.334 and 0.567. According to the calculation results and the related research results of Liu Yaobin and Wu Yuming^[5], the D values of Shanxi cities are divided into three types, namely, low-level coordination coupling ($D < (0, 0.4)$): Yuncheng, Xinzhou; Moderately coordinated coupling ($D \in (0.4, 0.5)$): Linfen, Datong, Yangquan, Lvliang, Changzhi, Jinzhong; High level coordination coupling ($D \in (0.5, 0.8)$): Jincheng, Shuozhou and Taiyuan; The cities with extremely coordinated coupling ($D > (0.8, 1)$) are not.

3.3.2 Analysis of Influencing Factors

(1) Economic development

There is a big gap between the quality of urbanization and the quality of basic public services in Shanxi Province, which is caused by many reasons. Among them, economic development can be said to be the decisive factor in the development of urbanization quality and basic public service quality. Through the development of economy, the continuous optimization and adjustment of local industrial structure can be realized, the proportion of secondary and tertiary industries can be continuously increased, the employment population of cities and towns can be continuously increased, and the urbanization can be continuously developed, so as to improve the quality of urbanization. At the same time, economic development has also increased fiscal revenue, and the government can spend more money on basic public services expenditure, thus promoting the development of basic public services^[6]. In Figure 5, it can be clearly seen that the ranking of per capita GDP and urbanization quality index in Shanxi Province is basically the same. Per capita GDP can not only measure the level of economic development of a region, but also an important factor affecting the quality of urbanization. Taiyuan and Shuozhou have the highest per capita GDP, that is, the highest level of economic development, so the quality of urbanization is also in the forefront. Among them, Taiyuan, as the capital of Shanxi Province, is also the central city. Its economic development level is much higher than other cities, and its urbanization quality and basic public service level are also higher than other regions. Therefore, the level of economic development has a significant impact on the quality of urbanization and the level of basic public services.

(2) Financial expenditure

Because of the basic, inclusive and non-profit nature of basic public services, the development of basic public services in China mainly depends on government financial expenditure. Public finance provides financial support for the development of basic public services, which almost directly determine the development of basic public services. As an important means of serving the society, government finance plays a decisive role in solving such problems as medical care, education, health and social security. The more the government spends on basic public services, the better the development of basic public services. On the contrary, if the government spends less on basic public services, the development of basic public services may be worse. Due to the limited financial resources of local governments and their respective emphasis on financial expenditure, the financial expenditure for basic public services is also different. The urbanization quality index of Shuozhou City and Lvliang City is 0.7187 and 0.4582 respectively, while the score of basic public service quality is only 0.3929 and 0.3646, which are much lower than the urbanization quality index. The main reason why basic public services lag behind the development of urbanization is that the government's financial expenditure on basic public services is limited and the supply capacity is insufficient, which leads to the poor development of basic public services, thus the coupling and coordination degree between urbanization and basic public services is also poor.

(3) Development concept

Among the many factors that affect the coordinated development level of urbanization quality and basic public service quality, the development concept and policy of the government are also one of the important factors that cannot be ignored^[7]. With the continuous improvement of the quality of urbanization, the key to promote urbanization is to solve the problem of people. However, the problems related to people's vital interests such as migrant workers' problems and employment have not been well solved. In conclusion, the reason is that the people-oriented concept has not been put into practice. In addition, the government's urban planning, management, operation concept, as well as the construction of basic public infrastructure, to a large extent, has become the key to promote the construction of urbanization with high quality. Datong City's basic public service quality score is 0.4468, while the urbanization quality score is only 0.2340. It can be seen that the basic public service is ahead of the urbanization development, which is inseparable from the government's concept of paying attention to basic public services. In addition, because Datong City is a resource-based city, the coal-based industrial development model has always deviated from urbanization, coupled with the uneven development of

urbanization within the county, the lack of development of small towns, etc., which has also made the quality of Datong's urbanization is low, and the degree of coordinated development with basic public services is not high.

(4) Geographical location and traffic conditions

Geographical location and traffic conditions are inseparable in the urban development of today's society, and they are also one of the important factors affecting the coordinated development of urbanization and basic public services. With superior geographical location and advanced traffic conditions, external contacts will be very convenient and easy to develop foreign economy. If the city is closer to the big city, its economic development will be better, and more funds can be used for basic public services. Therefore, the coupling coordination degree between urbanization and basic public services will be high. However, cities with remote geographical location and inconvenient transportation, due to the lack of radiation and driving of economically developed regions, their economic development level is often not high, so urbanization and basic public service investment are poor, and coupling coordination is also poor. Datong City is located in the remote Yanbei area, and the traffic connection with other cities is not close. So far, the Datong-West High-speed Railway has not been able to open the section from Taiyuan to Datong. Therefore, it is difficult to be affected by the more developed areas. The level of economic development is not high, and the level of coordinated development of urbanization and basic public services is not high.

4. conclusions and discussion

In this paper, the urbanization quality and the quality of basic public services in Shanxi Province are comprehensively evaluated through the construction of the evaluation index system of urbanization quality and basic public services quality, and the characteristics of the two and the coupling and coordination relationship are analyzed, and the influencing factors are further studied. The main conclusions are as follows:

In general, the quality of urbanization and the quality of basic public services in various cities of Shanxi Province are low. (1) There is a big gap in the level of urbanization development between cities in Shanxi Province, especially

between the two poles. In addition, the urbanization quality index of different cities also has obvious hierarchical characteristics.(2) The quality of basic public services in Shanxi is generally low, and the gap between cities is relatively small. The development of basic public services in various cities is not balanced, and they are generally spindle-shaped. (3) The coupling and coordination degree of Shanxi provinces is generally not high, most cities are in the moderate and low coordination and coupling type, lacking the extreme coordination and coupling city. The analysis of the influencing factors shows that the coupling and coordination degree between urbanization quality and basic public service quality is affected by many factors: economic development, financial expenditure, development concept, government policy, geographical location, transportation conditions, etc. It is expected to provide theoretical reference for the research on the relationship between urbanization quality and basic public service quality in large-scale regions.

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Research on Rural Tourism Development Path Based on Nostalgia Triggering Elements

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Abstract: Forty years of reform and opening up, rural urbanization and urban tourists' yearning for nostalgic pastoral life have formed a strong contrast, resulting in new tourism demand. From the perspective of nostalgia connotation, nostalgia triggering factors, interest subjects and products, this paper explores the new path of rural tourism development and provides a reference for diversified rural tourism development.

Key words: nostalgia, elements, rural tourism, path

Introduction

From ancient to modern times, nostalgia has always been the main theme, which condenses the sincere feelings of tourists to their hometown. Nostalgia triggering factors has become a new way of rural tourism development. As early as the Fifth Plenary Session of the Sixteenth Central Committee of the Communist Party of China, we put forward the important historical task of building a new socialist countryside. At the Central Conference on Urbanization held in Beijing the same year, the goal of urbanization was to build a beautiful countryside with "tangible mountains and water, unforgettable nostalgia". Today, the fortieth anniversary of reform and opening up, it is of special significance to integrate rural tourism into the element of "nostalgia". It is the only way to build "beautiful countryside" with distinct characteristics and beautiful landscape. Nostalgia triggers the construction of beautiful countryside.

1. Sources and Components of Nostalgia

As for nostalgia, it first appeared in the form of poetry in ancient Chinese literature, expressing the poet's emotional after leaving his hometown, and placing his nostalgia in poetry. Such as Wang Wei's *On Double Ninth Day Thinking of My Brothers at Home*, He Zhizhang's *Coming Home* and Li Bai's *Silent Night Thinking*, as well as Yuguang's most famous *Nostalgia*, all of these works express the feelings of homesickness. Recent broadcasting of CCTV documentary "Remembering Homesickness" has also brought the social influence of the word "nostalgia" to an unprecedented height. Nostalgia is a kind of emotion which is hard to give up. It exists in the softest and fragile depths of people's hearts. Nostalgia, as an academic subject, was first proposed by a Swiss College student, who

wrote in his degree paper in 1688 that "the pain a sick person feels because he is not in his native land, or fears never to see it again" ^[1].

What is nostalgia? Yang Zhiyong and Zeng Xianjie think that "Nostos" refers to the countryside. Based on this, they put forward that Nostalgia is the protection of rural customs and pastoral scenery, and the return of friendly relationships.^[2] Zhang Shuai believes that Nostalgia is the attachment of the villagers who flood into the city to the traditional life mode.^[3] The "nostos" in nostalgia should be the place where people once lived, or the countryside, or the town. The "algos" refers to people's memories and feelings of missing the place where they once lived or were familiar with. For modern tourists, nostalgia is a psychological dependence and missing feeling after leaving the villages or towns where they once stayed or lived. It is a high-level spiritual need after the basic material needs are met. It will become more and more strong with the change of time. As a symbol of memory, nostalgia mainly includes the original layout of villages, rural public space, reproduction of rural life, simple rural folkways, rural architecture and folk culture with local characteristics. These elements form an organic whole and trigger elements of nostalgia, which are indispensable.

2. The Necessity of Nostalgia in the Development of Rural Tourism

2.1 Nostalgia makes rural tourism more vitality so that the traditional rural culture can be inherited and developed

China's thousands of years of farming culture has left excellent traditional culture for the countryside, which is the internal source and motive force for the survival and continuation of the traditional countryside. The traditional culture of the countryside condenses the invisible humanistic

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feelings through the important elements of the ancient houses, streets, ponds, rivers and sacrificial customs, and promotes nostalgia. With nostalgic elements of rural tourism, tourists can experience from sensory to experience, and even to the simple dependence of the countryside. As the attraction of rural tourism, the trigger factor of nostalgia will be longer and more stable. Tourists feel the three-dimensional rural tourism experience. Rural tourism with nostalgic elements can make the countryside glow with primitive features, and the previously disappeared rural folk culture can be continued and inherited.

2.2 Nostalgia is the soul and indispensable part of rural tourism development

Nostalgia belongs to the category of ideology, which originates from the deep heart of people. It is the emotional dependence and cultural identity of the individual with independent consciousness on the place of life, and the emotional projection of the local life.^[4] Nostalgia is also a kind of psychological dependence and emotional belonging, which is the emotional memory of people's long-term production and life in a region, mainly reflected in the unique buildings in the countryside. The development of rural tourism must reflect nostalgia so that the original directionless local culture produces faith and spiritual strength, and local rural cultural concept can be continued. Without the expression of nostalgia in the development of rural tourism elements are like water without a source, trees without roots, there will be a large number of homogeneous development of rural tourism, which can not show the unique cultural charm of the village itself, and will not attract tourists.

2.3 Nostalgia is to make rural tourism more special

The "nostalgia" symbol has its unique expression form in different regions, nationalities and villages. Only through deep excavation and summary can the "nostalgia" feelings of the abstract side of the soil and water be truly expressed through tangible material elements and activity space.^[5] Nostalgia elements are mainly embodied in common rural buildings, such as Stone bridges, covered bridge, hanging-feet buildings in the south, caves, ground yard, a compound occupied by many households in the north, etc. Rural tourism utilizes and remolds these nostalgic life elements to create a fixed impression of nostalgia in rural areas. Local structures, such as farming venues, barnyards, ancestral halls and rural family sacrifices or major festivals, these farming culture and farming experience create a living impression of nostalgia. The unique farming cultural experience with special local buildings forms distinct local tourism.

2.4 Homesickness makes rural tourism development lower carbon and more environmental protection

In the development of rural tourism, the triggering factors of nostalgia mainly show the original country and reflect the original rural folk style. The construction of rural tourism takes

local materials, reduces the damage of the original buildings, repairs the old things, and maintains the original ecological environment. Reduce the emergence of modern elements as far as possible, such as nostalgic life will reduce the use of electrical equipment, so that life is more natural. In Japan, Korea and Taiwan of China, the construction of rural tourism attaches great importance to the protection of the environment and ecology. Rural trails are paved with well-permeated cobblestones and stones, or with natural and environment-friendly materials, merely using cement. This practice leaves tourists a very simple, natural, leisurely and comfortable feeling.

2.5 Nostalgia is an effective way to rejuvenate rural areas

In order to pursue a good life, many young people in rural areas choose to work in the city. Many villages have become "empty nest" villages and no one villages. The scene of the crowded people in rural areas in the past no longer appears. On November 17-21, 2017, the Third Conference of Ancient Chinese Villages and Towns was held in Gubeishui Town. Mr. Chen Changchun, the founder of the *Hermit Village*, said: Many old things are very valuable in the countryside. Don't throw them away or take them down. Therefore, the design concept of *Hermit Village* is very simple: "The renovation and design of old houses are extremely simple, with moderate luxury and quality frugality. The construction of nostalgic elements should keep the historical doorway, and the old house after transformation should basically keep the original farmhouse buildings and courtyard appearance. The conference said that in the past 15 years, according to the survey, the number of Chinese traditional villages have declined sharply. Nearly 920,000 traditional villages have disappeared at a rate of 1.6 per day.

Rural tourism construction under the trigger factor of nostalgia not only absorbs the original elements of the countryside, but also needs the participation of local rural farmers. The biggest attraction of rural tourism under the background of nostalgia is nostalgia, which not only attracts tourists who have lived in the city for a long time to the countryside, but also senses the charm of traditional rural culture and promotes the development of rural economy. Villagers do not have to travel around but can contribute to the construction of nostalgic elements and work for themselves. One of the main functions of nostalgia is to actively dig the "farming" culture, "filial piety and kindness" culture and "folk art" culture in rural areas, and show or perform them to tourists in appropriate forms. The triggering factors of nostalgia need the participation of local farmers. Invisibly, farmers have become the leading role of rural tourism. Therefore, their economic and social benefits are relatively high.

3. Problems in the Protection and Inheritance of Nostalgia-triggering Elements in Rural Tourism

3.1 Rural tourism with changes in neighborhood relations

and values

In the development of rural tourism in recent decades, great changes have taken place in neighborhood relations. From the initial simple neighbor's relationship between villagers, gradually become indifferent and vulnerable. The relationship between villagers is reflected in the amount of money. Villagers show the worship of money with interests-oriented in their values. Many rural areas abandon the traditional things, pursue fashion and western style, and pay more attention to the instant pleasure brought by enjoyment. This mentality and relationship are affecting the current rural tourism.

Guoliang Village in Henan Province has beautiful mountains, rivers and its stone-piled houses are very distinctive. It popularized for its TV series before but now it has been criticized for its bad reputation. Local peasants often fight with each other in order to compete for customers. Tourists need to eat farmers' meal before they enter the farmyard for a visit. Tourists have to pay for taking pictures with local villagers and even going to the toilet. Some villagers sell old moldy goods to tourists sell at best quality prices and there is a shortage phenomenon.

3.2 The ancient villages and buildings that trigger nostalgia gradually disappear

With the deepening of China's urbanization and the constant impact of foreign culture, the traditional village culture lacking reasonable planning has undergone considerable changes. In order to pursue fashionable western culture and living enjoyment, a large number of well-known villages and towns, blocks, buildings were demolished, and new rural houses were built in neat rows. Ancient buildings in ancient villages are mostly brick and wood structures. After a long period of wind and rain erosion, some of them were damaged by natural disasters and some of them were destroyed artificially. The historical remains of these traditional dwellings have begun to transform and dissolve. Villages carrying thousands of years of folk culture are gradually declining, even becoming "hollow villages". In order to rebuild rural tourism, various places began to restore these ancient buildings and began to have the renovation of ancient houses and villages. However, the degree of the system is not enough, and it has not been linked with the local unique culture to form the agglomeration effect of tourism.

3.3 The contradiction between nostalgia and rapid urbanization

Every traditional village has its own unique culture and history and shows its unique rural charm. With the development of national economy and urbanization, rural social economy and rural folklore tradition are developing towards urbanization and modernization. Many villagers work in the city. When they are rich, they either buy houses and settle down in the city or tear down their old houses and replace them with beautiful new ones. The trigger factors of nostalgia, such as medieval architecture,

traditional streets and folk culture, are constantly destroyed or even disappeared in the process of rural tourism development. The yearning for traditional rural life of urban tourists with improved quality of life has become stronger. Facing the homogenization and modernization of rural tourism, the serious destruction of rural culture, rural landscape and rural intangible traditions, they can no longer find the nostalgia of that year.

4. Analysis of the Causes of the Problems in the Development of Rural Tourism Caused by Nostalgia

4.1 The triggering factors of nostalgia have not received due attention in the development of rural tourism

In the development of rural tourism, only environmental and economic benefits are paid attention to, but few of them truly reflect the connotation of nostalgia. After the rural peasants became rich, they built fancy buildings, opened farmhouse, and had broad roads and bright street lights. These modern lifestyles and manifestations are farther and farther away from nostalgia. Nostalgia in modern rural tourism is only reflected in the restoration of houses for farm music or folk performances. Other ancient blocks and rural public culture which constitute the trigger factors of nostalgia seldom appear but replace by the modern atmosphere of urbanization. There are no nostalgia protection facilities such as nostalgia museum, nostalgia Protection Association and so on, so that the connotation of nostalgia cannot continue.

4.2 The triggering factors of nostalgia are not systematized in rural tourism construction

At present, in order to achieve the goal of quick success and instant benefit and shorten the construction period, rural tourism construction only pays attention to the surface project that can be seen in the countryside. It neglects that the natural scenery should be integrated with the simple customs, production and life, clans with local characteristics and traditional rural governance. Rural tourism shows tourists only beautiful rural scenery and unique food. Such a rural tourism development model can hardly touch the deep feelings of tourists and will not leave a deep impression on tourists in rural tourism, like a dragonfly skimming the surface of the water. Nostalgia conveys the nostalgic feelings of life that allow tourists to "feel peace" and pursue a tranquil rural mood, communicating with tourists from the soul.

4.3 Imperfect infrastructure makes it difficult to place tourists' nostalgia

Showing nostalgic authenticity does not mean completely returning to the original face of backwardness and poverty in the past. The primary solution of rural tourism infrastructure construction is accessed, that is, transportation. The general rural transport facilities in the developed areas of Eastern China are relatively complete, and the traffic problems can be solved by taking public transport or driving private cars. In the western

region, because the economy is not very developed, many villages far from the urban areas do not have roads leading to villages, let alone public transport. Tourists' rural travel has become very difficult, and they can not experience the relaxation and leisure of rural tourism experience. Besides, the basic problems of domestic electricity, such as incomplete electrical equipment, frequent blackouts, poor water quality, weak communication signals and lack of network, which bring great inconvenience to tourists.

4.4 Lack of deep multi-angle excavation of nostalgia triggering factors

The pursuit of nostalgia by urban residents is to experience the return to nature, to be close to the countryside, to be true and simple, and to return to rural life, which is the driving force for the development of nostalgia tourism. In practice, many traditional villages have strong rural culture. Because of various factors, rural tourism activities only stay on the surface, such as horse riding, archery, guerrilla fighting, bungee jumping and so on. Tourists are confined to quietly appreciate natural landscape and humanistic architecture, and participate in common experiential tourism activities. Visitors feel aesthetic fatigue by watching common views, lacking the in-depth experience of unique nostalgic culture. Tourists have the same impression of all rural tourism. They look at mountains and rivers, see farmers, and go home after dinner. Such nostalgic tourism not only does not feel the edification of the unique rural culture, but also makes tourists tired physically and mentally.

4.5 Lack of unified local planning makes it difficult to form their own characteristics

Influenced by the market economy and urbanization process, as a local government, it only pursues the showcase and political achievements. In most places, in the construction of rural tourism, all kinds of farmers' household entertainment are common, let tourists visit farmers' farming activities, fishing in riverside, playing cards in the room and so on. Rural tourism construction is becoming more and more urbanized. In order to attract tourists and improve the level of consumption, some places turn the farmhouse into a luxury hotel. Others begin to imitate after seeing short-term economic benefits. Therefore, in the same area, there are many farmhouse entertainments, resort villas and so on, resulting in the homogenization of rural tourism competition is very serious. In order to compete for tourists, there is still a vicious price competition between farmhouse entertainment, and in the end, rural tourism itself is still injured. Due to thousands of years of Chinese farming culture and the different climate and living habits, although has formed the "ten miles of different wind, hundred miles of different customs" of rural folklore long before, but no more efforts in different nostalgic culture construction, merely in formal.

5. Nostalgia Triggers the Development Path of Rural Tourism

5.1 Scientific design, highlighting the connotation of nostalgia trigger elements of tourists' three-dimensional experience, to retain the nostalgia of tourists

In the integration of nostalgia triggering factors and rural tourism, functional zoning should be carried out to stimulate the tourists' sense of identity and nostalgia in tangible material aspects to the maximum extent, and to improve the tourists' spiritual feelings and satisfaction.

The design has a unique nostalgic three-dimensional experience for tourists to improve their experience and feelings. In the tourist experience block, it can be divided into a living custom area, nostalgic market area and rural work area and etc. These modules are mainly for tourists to stay and experience their own familiar or fresh farmer life, and experience the farming and pastoral life mode of work before sunrise and relax after sunset. In the customs area, there are local characteristics of the Bed and Breakfast, which are not only a room, but also a complete courtyard. There are kitchens, halls, courtyards, poultry, grape shelves and chicken houses with children's interest. In addition, there will be locust trees, water wells and threshing fields in the village, and there will be special folk activities and open-air movies every night. In nostalgia fairs, you can hang around with your friends in baskets and buy nostalgic items you can't buy in the city, such as snow cream, comic books, etc. In the rural work area, tourists can experience different agricultural production periods according to different seasons, such as transplanting seedlings, weeding wheat, harvesting rice, tasting the fruits of their own work, and eating fresh organic vegetables and grain without pesticide residues. Designed small workshops in rural areas with stone grinding tofu, blacksmith stove iron and other agricultural production practices, ask the old farmers to chat with tourists and interact, to achieve the effect of communication and communication to close the distance between tourists.

5.2 The government should strengthen guidance and unified planning, and make good use of the platform to publicize nostalgia

For the regional nostalgic tourism industry, the local government should dominant. On the basis of unified planning, the local government establishes different characteristic villages in different traditional villages. Different villages will have their own advantages and disadvantages. We can realize the balanced development and complementary advantages of rural tourism in different villages through one village, one characteristic, one village and one experience. Share resources on infrastructure, share construction costs together, and get bigger industrial returns with the least investment. The leading role of the government is also reflected in the price of nostalgic tourism consumption. The premise is to ensure tourists' nostalgic experience. Farmers themselves can not arbitrarily charge tourists higher prices, establish complaint mechanism, and

ensure the interests of customers.

The government can sublimate the hotspot of nostalgia tourism by means of opportunity platform. Generally, the government will have certain propaganda activities on the reform and opening up at special time points. Local governments seize the opportunity to show the strong time contrast between the past and the present, and promote the propaganda of nostalgic tourism. Usually through news interviews to achieve cultural propaganda of nostalgic tourism, show the unique protection of local historical and folk customs, and enhance the status of the industry. Use we-Media and websites to show the charm of nostalgic tourism, and encourage photographers, painters and backpackers interested in primitive folklore to visit.

5.3 Establish tourists' union, invite tourists often "go home" to see, change online nostalgic neighbors to real nostalgic neighbors

Nostalgia has emotional value, economic value and cultural value. Among them, emotional value is its basic value and the intrinsic value of nostalgia. It contains the cultural and spiritual needs and emotions of people after their material life has been greatly satisfied.^[6]

The essence of nostalgia is the sublimation of inner feelings. Its establishment will be more attractive than other tourist attractions. It is more meaningful to attract tourists' emotions than to develop the economic and cultural values of rural tourism directly. Under the background of nostalgia, rural tourism is to make friends with tourists to achieve an emotional resonance. Wechat or QQ nostalgia group can be established among tourists. Every visitor in the group is a nostalgic resident of the village, with a common topic and a sense of belonging of "home". Entering the real life, the tourists in the group are the neighbors of "villagers in the countryside".

5.4 Let tourists become the masters of pastoral gardens and experience the nostalgic pleasure of spring sowing and autumn harvest

In a large traditional agricultural country with a long history of farming and a splendid "farming culture", almost everyone has an unlimited yearning for pastoral life. Due to the pressure of modern life, we have to return to the noisy city. For thousands of years, from "gathering Chrysanthemum under the eastern fence, leisurely see Nanshan" to "lonely village under sunset and afterglow, crow on the old and light smoky tree. suddenly, a wild goose flew away." are all in the countryside, relying on the infinite feelings of pastoral landscape, only there can we put that infinite nostalgia. To give a poetic pastoral, planting a garden of green vegetables, this is modern people's pastoral pleasure, both to meet the joy of harvest, but also to eat their own vegetables planted.

5.5 Pay attention to the integration of modern civilization and traditional Nostalgic Culture

Mr. Fei Xiaotong said, "When life is combined with the

countryside, we are not afraid of the washing of time." Nowadays, when traveling to a Bed and Breakfast, it is my hometown to settle down in the countryside. Nostalgia triggers the original rural style and rural experience. However, if we follow Maslow's hierarchy of needs theory, on the basis of ensuring low-level needs such as health and safety, and then meet the high-level needs such as tourists' pursuit of novelty and peculiarity. Rural tourism, which reflects nostalgia, tries not to destroy the original appearance of ancient buildings, and keeps the authenticity of ancient buildings, and repairs the damaged areas properly. In nostalgic tourism, the purpose is to make better use of local rural buildings and make them more livable and closer to the real life of modern people. Therefore, when designing and renovating farmer's courtyard and house, we need to balance between "new" and "old" scientifically. Reform and optimize the obvious unreasonable places in rural building moderately. For example, without affecting the building structure, the ventilation and lighting problems of the old house can expand the visual sense by using white as the main color of the space background and adding air windows and using the open style structure as far as possible to enhance ventilation. Rural tourism with nostalgic elements should pay attention to details, especially modern people's hygiene and civilized habits, which can not be ignored.

5.6 Training local farmers to be nostalgic "actors" to enhance their service concept

In the experiential rural tourism dominated by nostalgia, farmers are one of the important subjects of tourism activities. Tourists participate in nostalgic tourism activities, local farmers must be integrated into them in a dual identity, not only local residents, but also tourists good neighbors and good guides. The government must play a leading role, pay attention to the training of local residents on the basis of unified planning, and make them the inheritors of rural traditional culture. We should also give full play to the role of rural cultural talents so that they can become experts of rural cultural management and play a leading role in demonstrating other farmers. In the training of local residents, the main task is to improve the cultural quality and professional production and service capabilities of local farmers, such as local characteristics, folk etiquette and regional style of agricultural activities. The trained local farmers can not only meet the requirements of rural tourism and create good economic value in specific tourism reception, but also reduce the complaint rate of tourists and improve their nostalgic experience value.

5.7 Pay attention to exploiting the hierarchy and diversity of nostalgic industry to promote farmers to become rich

The nostalgic tourism industry should be divided into different themes, each with its own characteristics and dig deeply. Same is a failure. The nostalgic tourism industry can be divided into the old people's market born after 1950 and 1960, the

middle-aged people's market born after 1970 and 1980, and the young people's market born after 1990 and 2000. The main nostalgia of the elderly market is "the memory of the past hard and unforgettable years". There are old rural people who work or live in the city for various reasons, and there are also old educated people who go to the countryside when young and then return to the city. The feelings of the elderly market towards the countryside are the simplest and strongest. In view of such a market, nostalgia should be simple and frugal, and return to those unforgettable hard years. Most of the middle-aged market people have succeeded in the city. Memories of nostalgia are happy childhood days, no video games, no TV, but there are a group of childhood playmates picked jujube and fished shrimp in the river, and mowed pork grass together. Young people in the young market are curious about the nostalgia of the countryside. Most of them have heard of the nostalgia of their parents, but have not experienced it. For young people, nostalgia is to experience fun, satisfy novelty-seeking psychology, increase social knowledge and experience. Rural tourism and local schools have established cooperative mechanisms to become the main destinations for students' social practice and spring and autumn outings. Developing student markets has become the main force of nostalgic tourism. Students feel the hardship and difficulty of farmers and learn the profound farming culture of China for thousands of years.

The arrival of nostalgic tourists has led to the development of local industries. According to the unified planning of the local government, local farmers participate in various business activities of rural tourism development. Farmers can become guides of nostalgic folklore, experts in the production of farm dishes, and participate in the production of local specialties. A set of rural tourism industry brings great interests to local farmers.

Conclusion

The ideal state of tourism is to have a certain impact on

tourists, internalize in the heart, and enjoy a long aftertaste. Rural tourism, triggered by nostalgia, opens tourists' hearts from the bottom of their hearts and shows them three-dimensional perspectives of "things", "people" and "feelings" belonging to nostalgic memories, which naturally provides a home for nostalgia that is nowhere to be laid down. The integration of nostalgia triggering elements in rural tourism not only enriches the content of rural tourism, but also helps to improve the relationship between rural tourism and tourists, and promotes the healthy and sustainable development of rural tourism.

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Discussion on "Environmental Protection and Energy Conservation" of Electric Vehicles from "Social Acceptance"

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Abstract: Electric vehicles are vehicles that use electricity as energy source and electric motors as power source. The difference between electric vehicle and engine vehicle is that it does not need gearbox and its structure is relatively simple. Emil EKeller invented the electric car in 1894. As a result, it began to appear on the world stage. From the perspective of the popularization mode of electric vehicles in Norway, there is no need to worry about the environmental pollution caused by electricity generation if it is replaced by cleaner generation methods such as hydroelectric power generation, so the popularization of electric vehicles can be regarded as positive to the environment and society. If the power source is still thermal power, and electric vehicles continue to be forcibly promoted under such a background, not only the atmospheric environment problem is difficult to improve, but also the government unilaterally implemented high subsidies for electric vehicles will be difficult to reflect its due value.

Key words: electric Vehicle, social acceptance, consumption and satisfaction, environmental protection and energy conservation

Electric vehicle (hereinafter referred to as EV) is a vehicle that uses electricity as its energy source and electric motor as its power source. The difference between EV and engine car is that it doesn't need gearbox and its structure is simple. Emil EKeller invented EV in 1894. As a result, EV began to attract people's attention. In the 1970s, EV received renewed attention because of the energy security problems caused by the oil crisis and the local pollution problems caused by waste emissions. However, in the case of relying on lead-acid batteries, there is still no substantial breakthrough in the performance of EV, and the exhaust gas purification performance of fuel engine vehicles continues to improve, and EV once again disappears from the automotive market.

In the late 1980s, environmental problems (especially air pollution) became more and more serious. As one of the means to improve the atmospheric environment, EV re-entered the world automobile market. Large automobile companies in the United States and Japan have invested in the development of EV. In the United States, the California Department of Atmospheric Resources (CARB) developed "The Zero Emission Vehicle (ZEV) Regulation" in 1990., EV was once very popular in the United States. General Motors has developed the two-compartment sports car "EV1" with lead batteries, Ford has released the "Ranger EV" pickup

series, and Chrysler has developed the "Voyager Epic" minivan. However, although "EV1" pre-sale popularity is very high, but only sold more than 600 units in the first three years, which can be said to have failed in commercial investment. Then one day, EV sales grounded to an abrupt halt. Not only GM, but also all automotive companies 'EV sales disappeared. Japanese automobile manufacturers have also developed a variety of electric vehicles. However, the production and sales of EV did not have a great impact on Japanese automobile companies, because at that time hybrid vehicles were more concerned than electric vehicles. Therefore, Japanese automobile companies concentrated on the production and sales of hybrid vehicles.

At present, among Japanese automobile manufacturers, electric vehicle manufacturers are limited to Nissan Leaf (released in December 2010) and Mitsubishi i-MiEV (launched in July 2009). According to statistics, from 2011 to April 2016, "Prius" sales are about 6 million units. The total global sales of Leaf are about 200,000 units (from beginning to October 2016). The total domestic sales of i-MiEV are only 10,520 units (from beginning to October 2016). From this data, the market size of electric vehicles is much smaller than that of hybrid vehicles.

According to the statistics of EAFO (European Alternative Fuels Observatory), the market share of PHEV

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and EV in Norway in 2009 is 0, while that of diesel car and gasoline car in 2012 is 75.7%, 20% respectively and the total was 95.7%. Since then, the market share of PHEV and EV has increased sharply. In 2016, the market share of PHEV and EV reached 13.4% and 15.7% respectively, totaling 29.0%. Moreover, in 2016 Norway's EV market share ranked first in the world, that is to say, the country's electric vehicles in the automotive market has grabbed a place from other fuel vehicles. According to the news released by the Norwegian Road Federation (NRF) on January 2, 2019, the proportion of EV in Norwegian new car sales increased from 20.8% in 2017 to 31.2% in 2018. And the popularity of charging facilities is also very rapid. The number of charging devices in Norway has trebled from 2010 to 2017. By 2017, more than 8,000 charging facilities have been built and popularized.

Research by Erik, Marika and Beate (2014) has analyzed the following five factors contributing to the rapid implementation of Norwegian electric vehicles: 1. The cost of car maintenance is low. 2. The Highway toll is free. 3. The customer's needs are best met. 4. The environment is protected. 5. The cost performance is relatively high. It can be seen that there are three economic factors related to electric vehicles. Research by Paal, Stef and Kenneth (2018) shows that in order to popularize EV, the Norwegian government has introduced such preferential policies as free highway toll, free parking lot, free bus route, tax incentives (and higher purchase tax on gasoline vehicles), etc. This shows that Norway's preferential policies have brought economic advantages to electric vehicles owners, which have greatly advanced their promotion.

The writer interviewed Paal Brevik Wangness, a Norwegian researcher in the field of EV policy research, with the question "Can EVs remain popular in Norway if preferential policies are abolished?" He responded that the rapid popularity of electric vehicles in Norway so far is due to the various policy supports provided by the government. And since those support policies will continue until 2025 according to the government's goal, the spread of electric vehicles will also continue. From the above analysis, we can know that the reasons for the popularity of electric vehicles in Norway are as follows:

①. The purchase cost is cheap, ②. the car maintenance cost is cheap, ③. the charging facilities are popularized rapidly. In addition, as the main energy source of electric power, hydropower is more environmentally friendly, which has a positive effect on the popularization of electric vehicles.

So can Norway's popularity of electric vehicles be applied to China? The writer believes that it should be combined with the actual situation of China to make an

analysis. China has also implemented a number of subsidy policies for the popularization of electric vehicles. However, with the support of the government, automobile-related enterprises, electrical companies and various interest groups, the extent to which electric vehicles can be popularized will ultimately be determined by the choice of consumers and users. As one of the many options for consumers, whether the performance of electric vehicles meets the requirements of consumers and whether they are well accepted and recognized by consumers needs further investigation. The writer did a research to try to understand the consumer's demand for electric vehicles through questionnaires, and clarify the "market acceptance" of electric vehicles. There are two contents of the questionnaire survey.

First of all, ask consumers whether they would like to buy electric vehicles, more than half (52%) of them said they would like to buy electric vehicles. Among the reasons for willingness to buy: The three reasons of "environmental protection", "energy saving" and "low noise" accounted for 61% of the total. In addition, "electric vehicle is the future development trend of automobiles" and "implementation of preferential policies" accounted for 10% of the total. Among the reasons for unwillingness to buy: The problems of "inconvenient charging" and "imperfect supporting facilities with few maintenance stores" accounted for 19%, "small battery capacity", "short driving mileage", "safety concerns" and other related issues of battery technology accounted for 30%. It can be seen that consumers have a high degree of concern for environmental protection, energy conservation and noise, which can be interpreted as a great expectation for environmental improvement in China. The survey also shows that preferential policies and the shift of automotive energy are the trend of the times, and to some extent, have a positive impact on the desire to buy. On the other hand, the high price of electric vehicles, imperfect infrastructure, and immature related technologies (battery, driving distance, safety, etc.) are the main reasons that hinder consumers from buying electric vehicles. Generally speaking, young consumers' recognition that electric vehicles are of great value in environmental protection deserves great attention.

The second part is to ask consumers who have purchased electric vehicles how satisfied they are. 7 people among the above-mentioned 51 respondents who indicated that they are willing to purchase electric vehicles have participated in the second part of the question. This part consists of five questions:

1. When did you buy an electric car?
2. What is the reason for the purchase?
3. How does the user experience?
4. What are the problems in use?
5. Will you recommend it to your friends?

According to the answer, the main reasons for purchasing are "environmental protection" (43%), "energy saving" (14%), "subsidies" (29%) and "unlimited number" (14%). The problems in use are: "Fewer charging piles" (29%), "shorter driving mileage" (29%) and "insufficient power" (14%). Although the number of in-depth answers to the second questionnaire is not much, from the combination of the answers to the second questionnaire, it can still be seen that consumers' expectations for environmental protection, energy conservation and other environmental improvement, as well as preferential policies and the direction of automotive energy are the trend of the times and also play a positive role in promoting the purchase of electric vehicles. On the other hand, the imperfect infrastructure of EV and the immaturity of related technologies (batteries, driving distance, safety, etc.) are not only the main reasons that hinder consumers from buying EV, but also the subjects that affect consumers' satisfaction. The conclusions of the two questionnaires are in good agreement.

Through the above analysis, the writer believes that the prerequisite for popularizing electric vehicles is environmental protection. If thermal power generation can be replaced by cleaner generation methods such as hydroelectric power generation, there is no need to worry about the environmental pollution caused by power generation. Therefore, the popularity of electric vehicles can be regarded as positive to the environment and society. At present, the main power source in China, even in the world, is still thermal power. In 2016, 71.6% of China's total power generation is thermal power, and in 2017, 64.8% of the world's actual power generation is thermal power. According to the carbon dioxide emissions from various fuels in 2013, oil (33.6%), carbon (46%) and natural gas (19.8%) accounted for 99.4% of the carbon dioxide emissions. Therefore, with the popularization of electric vehicles, the demand for fuel for thermal power generation will continue to increase, and

the possibility of worsening the atmospheric environment will be higher.

Therefore, the power source is still thermal power generation. However, if electric vehicles continue to be forcibly promoted under such a situation, not only the atmospheric environment problems will be difficult to improve, but also the high government subsidies unilaterally implemented for electric vehicles will be difficult to reflect their due value. In addition, all aspects of the performance and potential problems of electric vehicles need to be fully grasped within a certain long period of time. Therefore, the development of electric vehicles should be completely left to the market choice, or be subject to changes in the production plans of automobile manufacturers, or be influenced by national policies is necessary to continue to make a more in-depth analysis.

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Research on the Educational Practice Quality Evaluation System of Biology Normal Universities in Normal Universities

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Abstract: Educational practice is an important link in the education and teaching of undergraduate normal universities in China. Aiming at how to evaluate the quality of teaching practice in normal universities, this paper takes the teaching practice of biology as an example, adopts the analytic hierarchy process and comprehensive analysis method, takes personal ability, practice attitude, classroom teaching, class teacher work, educational scientific research and field practice as the main evaluation indexes, designs and puts forward a kind of Quality Evaluation System of Biology Education Practice in Normal Universities.

Key words: normal universities, educational practice, quality, evaluation, biology

Educational practice is an important part of the teaching plan of undergraduate normal universities in China. It aims at training students' educational and teaching abilities, and plays an important role in helping students understand the connotation of education and teaching, obtain professional education concepts and promote students' professional growth. The evaluation of the quality of educational practice is an indispensable part in the process of educational practice activities carried out by undergraduate normal universities in China. The design of process design and evaluation system of educational practice needs to be presupposed before carrying out educational practice in normal universities. Although the requirements for teaching practice and the construction of evaluation system of teaching practice for different specialties in normal universities have similarities, we should also see its particularity.^[1] In view of the problems existing in the evaluation of the quality of educational practice in normal universities, the design method of the evaluation system of the quality of educational practice for biology specialty is discussed, and the evaluation system of the quality of educational practice is put forward.

1. Introduction

In the Outline of Basic Education Curriculum Reform in China, it is proposed that an evaluation system should be established to promote the all-round development of

students' quality, and an evaluation system should be established to promote the continuous improvement of teacher education.^[2] Because there are some differences in the connotation and requirements of educational practice among different majors in normal universities, the evaluation of the quality of educational practice is different in the process of carrying out different educational practice. When establishing the evaluation system of teaching practice quality for biology major in normal universities, we cannot completely copy the relevant experience of other majors without discrimination. With the continuous expansion of the field and knowledge system of biology specialty, it is a necessary test means for normal students of biology specialty establish evaluation of educational practice in order to test their mastery of biology specialty. In addition, educational practice is the main way to combine theory with practice for students in normal colleges. This requires not only a comprehensive grasp of theoretical knowledge for normal students, but also a deeper understanding of theory through educational practice, so as to truly realize the integration of theoretical knowledge and practical application. In the process of educational practice, whether we can test the students' mastery of theoretical knowledge and teaching practice ability in a limited time depends not only on their own efforts, including the degree of mastery of theoretical knowledge, the cultivation of teaching beliefs, professional

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ethics and personal morality, but also on the arrangement and attitude of educational practice, which all these need to establish a relatively complete quality evaluation system as the basis.

2. Research status

Foreign universities attach great importance to educational practice activities in the process of teacher training, which promotes the establishment of evaluation index and standard of teacher training practice. The evaluation standard table of teaching practice of Greenwich University in London, UK, has carried out a comprehensive evaluation of teaching practice from eight aspects: preparing lessons and teaching plans, implementing teaching plans and evaluating and so on.^[3] In the United States, an undergraduate trainee teacher competency assessment item has been introduced, which covers five topics and 49 assessment details. These 49 details include not only the relationship between teachers and students, but also the relationship between teachers and parents, teachers and colleagues, which breaks through the traditional design of evaluation index for the quality of educational practice^[4]. In the domestic related research, the research on the evaluation of physical education practice is relatively sufficient. The evaluation system of education practice is divided into general evaluation and specific evaluation^[5]. At the same time, the comprehensive evaluation method is used to evaluate the students' practice scores^[6]. In view of the utilitarian orientation of the evaluation of the quality of educational practice, the imperfection of the evaluation and supervision mechanism, and the generalization of the weight of the evaluation index of educational practice, etc^[7].

3. Problems in the Quality Evaluation of Educational Practice

3.1 Internal imbalance of evaluation system

The evaluation of the teaching practice quality of normal university students should be based on a complete evaluation system. A complete evaluation system itself consists of many elements. Too few elements easily lead to the evaluation system is not comprehensive and specific, and it is difficult to evaluate the quality of normal students' educational practice comprehensively and effectively. Too many factors will also make the evaluation index of educational practice lengthy, which is not conducive to the ultimate goal of evaluation. Scientific, reasonable and fair evaluation indicators are the premise of judging the quality of higher education practice. However, in the evaluation of the quality of undergraduate teacher education internships, there are overlaps between the evaluation criteria in the

design of some indicators. Some indicators cannot characterize the dynamics and variability of the evaluation process. The evaluation index of educational practice has the phenomenon that expected purpose is difficult to coincide with the actual purpose. If we fall into the myth of evaluation for evaluation, it will easily lead to imbalance within the evaluation system.

3.2 Distortion of Evaluation Index Design

According to the literature on the evaluation of educational practice quality in China, it is found that comprehensive evaluation method and multiple evaluation method are commonly used in the evaluation methods of educational practice quality.^[8] Although "comprehensive" and "pluralistic" can comprehensively summarize the evaluation objects, the establishment of the quality and price system of educational practice depends not only on the comprehensiveness of evaluation elements, but also on the rigorous grasp of elements. Emphasizing the whole, the big and the general will make the evaluation itself unable to achieve the expected purpose of the evaluation. Therefore, in the evaluation index system of educational practice, we should not only emphasize the comprehensiveness and objectivity of the evaluation index of educational practice quality, but also consider the hidden hierarchy in comprehensiveness and pluralism.

3.3 Incompleteness of evaluation items

The educational practice of biology specialty in Normal University of our country includes not only the participation of middle and primary schools in teaching and the work of class teacher, but also the field teaching practice which is unique to biology specialty. If only the former is included in the evaluation system of teaching practice quality for biology majors in normal universities, and the evaluation of field teaching practice quality is not included in the framework of the evaluation system, the evaluation project will be incomplete.

4. The theoretical basis and method of establishing the quality evaluation system of teaching practice for biology specialty

The theoretical basis for the establishment of the quality evaluation system of undergraduate normal universities' educational practice is based on the developmental evaluation theory and the formative evaluation theory. In the hierarchical design of the evaluation system, the analytic hierarchy process (AHP)^[9] is a comprehensive evaluation method combining qualitative and quantitative analysis. In the analytic hierarchy process, according to the evaluation object and content, the scientific local method divides into different levels, and lists the indicators of different levels through the

way of constructing matrix. In evaluating the quality of teaching practice of Biology Normal students, we need to take into account the diversity of practice elements and types of practice projects in the process of teaching practice. Therefore, we can refer to the analytic hierarchy process to establish the quality evaluation system of biology education practice. In terms of the weight of the indicators in the evaluation system of biology education practice quality, it is necessary to determine the weight of the indicators based on the elements in education practice and the categories of educational practice projects, as well as the decomposition of the elements and project components. In the method of determining weights, objective and subjective weighting methods are adopted.^[10] It is mainly based on subjective judgment of experience, work focus and overall balance. According to the link and focus of biology practice, the weight of evaluation index is determined according to the degree of attention that decision makers (experts) pay to each factor subjectively, but the weight of evaluation index can also be adjusted in objective circumstances.

5. Requirements for the Construction of Practice Quality Evaluation System for Biology Major Education

The construction of the evaluation system of biology education practice quality is based on the analytic hierarchy process (AHP) to construct a set of evaluation index system for the quality of education practice. The evaluation system needs to break the limitation of listing the evaluation indicators simply in the past, and include the requirements of different elements and projects in educational practice into the evaluation scope. Based on this, the effectiveness and quality of educational practice are evaluated, so as to promote the continuous improvement of the quality of educational practice.

5.1 Pay attention to the weight of different elements in the evaluation

The evaluation of different elements in the process of educational practice needs to determine its weight in the evaluation system of educational practice quality. Because the time of educational practice is relatively short, the evaluation of personal quality in educational practice should be better than that of classroom effect. In the evaluation of students' professional development ability, we should not attach too much importance to the weight in the evaluation index system of educational practice quality. Therefore, in the construction of the evaluation index system of educational practice quality, it is necessary to establish its multi-level analysis index, and mark the weight in the decomposition index of each level, so as to highlight the importance of the index.

5.2 Improving the Content System of Implicit

Evaluation Index

In the design of the evaluation index system of biology teaching practice quality, according to the analytic hierarchy process, it is usually necessary to establish three levels of indicators. This is based on three aspects including the evaluation of students' mastery of knowledge system, evaluation of teaching ability, participation in other activities in teaching practice evaluation of these. In the design of the evaluation index system, according to the dynamic characteristics of the quality evaluation index, according to the principle of comprehensive, scientific and reasonable combination with the connotation of professional practice, comprehensive evaluation, quantitative and qualitative methods are used to design the evaluation index. By improving the indicators of implicit evaluation content, we can dynamically evaluate the quality of interns' educational practice in the above aspects. Especially for biology specialty, it is necessary to design characteristic indicators related to professional practice based on the inherent requirements of the specialty itself, and to design scientifically and rationally the weights of indicators.

5.3 Establishing a professional team to evaluate the quality of educational practice

In the design of the evaluation system for the quality of normal students' educational practice, school administrators, designers and evaluators need to clarify the characteristics of professional practice in accordance with the requirements of personnel training, so as to jointly participate in the design and evaluation of the evaluation system for the quality of educational practice. If only the leading teachers were in charge of quality evaluation of educational practice, the expected results could not exactly the same as the actual results. Therefore, it is necessary to establish a professional team to fully evaluate the quality of educational practice.

6. Construction of Evaluation System for Teaching Practice Quality of Biology Specialty

Based on the above analysis, it is necessary to determine the weight of each element and item in the evaluation index system in the evaluation of the quality of Biology Normal students' educational practice, and assign it according to the importance of each element and item in the evaluation, so as to achieve the rationality and scientific of the index design, so that it can reflect the real situation of educational practice. In addition, in the construction of the evaluation system for the quality of biology education practice, besides taking into account the mastery of the professional knowledge of normal students in the teaching practice, and paying attention to the classroom teaching

ability and practice level, we also need to combine the characteristics of biology, pay attention to the field practice teaching activities of biology, and reflect the weight of this part in the index system. In the evaluation system of

biology education practice quality in normal universities, the field practice is increased to 20% in weight, which strengthens the requirements of a series of work and processes such as field biology specimen preparation.

First level index	Two level index	Three level index	weight
Practice Attitude (20)	Practice discipline	Complete the internship tasks according to the practice plan, truly participate in the practice activities, and have good discipline.(Written supporting materials are required)	6
	Internship attitude	According to the requirements of the practice task, the seriousness, responsibility and effort of the practice.(Written supporting materials for the process of each link are required)	5
	Personal image	In the practice of primary and secondary schools, they dress appropriately, behave correctly and have a good image of teachers.(Photographs, recordings and videos from the practice site are used as supporting materials)	4
	Summary and reflection	In each stage of the internship project, there are staged work summary, practice diary, and summary and reflection on the achievements and shortcomings of the internship work.(Written supporting materials are required)	5
Classroom Teaching (30)	Teaching preparation	We should study the textbooks carefully, organize the teaching contents carefully, compile complete and standardized teaching plans on time, and pay attention to the cultivation of students' knowledge and emotions with the actual life of students.(Written supporting materials are required)	6
	teaching method	Combining the teaching content and the actual situation of the students in the practice school, we should choose the appropriate teaching methods to arouse the students' participation in the classroom.(Written supporting materials are required for on-site lectures)	4
	Teaching attitude	Dedicated to work, be a model, be proactive, and strictly demand yourself, teach and educate people, and be naturally friendly..(Supported by process preparation materials and photographs, recordings and videos of the internship site)	4
	Teaching language	The expression of biological terms is accurate and standard, and the teaching language is clear, fluent and logical.(Audio recording, video recording and on-site lecture as supporting materials)	4
	Teaching skills	The blackboard writing design is reasonable, the handwriting is clear, the design is reasonable, and can properly use teaching aids, multimedia and other teaching means.(Photographs, recordings and videos from the internship site are used as supporting materials)	5
	Teaching reflection	To accomplish the teaching task, there are measures to improve teaching summary and discovery of problems (need written supporting materials)	5
	Homework guidance	Carefully correcting homework and commenting, patiently tutoring students.(With physical objects, photo recordings and videos as supporting materials)	2

Head teacher's work (20)	Work plan	Actively penetrate into the class, familiarize with the situation, and work out a work plan.(Written supporting materials are required)	5
	Routine work	Actively participate in class early reading, exercises, class meetings, self-study and extracurricular activities to deal with daily affairs.(Photographs, recordings and videos from the internship site are used as supporting materials)	5
	Class activities	Targeted thematic class meeting activities have been carried out to mobilize students' enthusiasm for participation, which has a certain effect.(Taking photos, recordings and videos of the internship site as supporting materials and the plan of the theme class meeting activities)	5
	Work effect	Actively complete the work of head teacher, and form harmonious teacher-student relationship with school teachers, leaders and students.(Practice schools provide written support materials)	5
Educational Research (10)	topic selection	Starting from the reality of educational practice, this paper chooses practical educational research topics.(Written supporting materials are required)	3
	Method	Collect relevant data carefully, determine research methods, and clarify research ideas (need written supporting materials)	4
	paper	It has theoretical support, choice of research methods, clear viewpoints, sufficient arguments, accurate citations, detailed and reliable data, clear hierarchy, concise writing and clear charts.(Written supporting materials are required)	3
Field Practice (20)	Practical skills	The field operation skills meet the professional requirements, and can independently complete the preparation of biological specimens, use reference books, as well as the preparation of bio-search keys, which can effectively ensure the quantity and quality of specimens.(Written supporting materials are required)	6
	Knowledge requirement	Have some theoretical knowledge, biological knowledge and field operation knowledge (need supporting materials).	4
	Capability requirements	In field practice, there are organizational discipline, teamwork spirit, ability to analyze and solve problems, effective use of acquisition tools and so on.(Photographs, recordings and videos from the internship site are used as supporting materials)	6
	Practice effect	Writing of internship report, summary of special topics, written results of reflection on the shortcomings in practice, sample preparation, etc.(Written and in-kind supporting materials are required)	4

7. Conclusion

Educational practice in normal universities is an important link in the process of training normal students. The establishment of the evaluation system of educational practice quality is the key to effectively control the process of educational practice. In the design of the evaluation

system for the quality of educational practice in normal universities of our country, although the design of some evaluation indexes is related to the nature of specialty, the diversity of elements in the process of educational practice, and the selection of evaluation methods, in the final analysis, it is necessary to design a system that can fully reflect the

real situation of the process of educational practice and evaluate the quality of educational practice scientifically. It is a problem that should be considered in the design of the quality evaluation system of educational practice in normal universities in China. On the design method of the evaluation system for the quality of educational practice of biology specialty, although the weighting method combining the analytic hierarchy process with the objective and subjective method is only a method for the design of the evaluation system, how to combine other design methods to design the quality evaluation system of educational practice more accurately, it is also necessary for the academic circles to work together to explore an evaluation system for the quality of educational practice in normal universities with clearer observation points and more direct effects. At the same time, the composition and weight assignment of the evaluation index system need to be further improved.

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Study on Optimizing the Production Conditions of Potato Granules Cake by Orthogonal Method

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Abstract: In this experiment, the best formula of potato raw granules cake was determined by single factor experiments and orthogonal experiments. The variables of those experiments contain the proportion of potato granules and cake flour and bread flour, and the amount of sucrose and eggs. The results showed that the optimal formula was as follows: mixing ratio (In 600g, and the mass ratio of potato granules to cake flour to bread flour) 2:1:1, fine white sugar 500g, egg 1400g. With this formula, the color of potato cake is superior. Taste is also softer. Potato flavor is more obvious. It has higher nutritional value.

Key words: potato granules; cake; orthogonal experiment; process optimization

Introduction

The strategy of making potato as staple food will be launched. It is estimated that 50% of potatoes will be consumed as staple food by 2020. [1] However, the single method of potato production can no longer meet the increasingly rich dietary requirements of people. Traditional potatoes are usually eaten directly after boiling, stir-frying, deep-frying and other cooking methods. Because potatoes are rich in nutrients, [2] potatoes can be made into potato powder, and then potato powder added to steamed bread, noodles, bread, cakes and other staple foods through the relevant production process, which has become a dietary trend. This study is based on the basic conditions of making cake with potato flour, and then the orthogonal method is used to optimize the preparation conditions.

1. Materials and methods

1.1 Test Material

Potato Granules Cake (sweet potato flour, granular powder), cake flour, bread flour, eggs, fresh lemon, fine white sugar, corn oil, pure water, salt, baking powder. All the above materials were purchased at the local Wal-Mart supermarket.

Apparatus: Electric oven (SEC-3Y, Zhuhai Sanmai Machinery Co., Ltd.), egg beater (DR0802, Guangdong Dell Electric Co., Ltd.), electronic balance (CP214, Shanghai Ahaus)

1.2 Potato Granules Cake Making Process

Egg yolk, fine white sugar and vegetable oil →

mix together egg yolk paste. Potato granules, cake flour, bread flour → lemon juice → mix → the mixing paste put in the mode → bake → cool and finish
Egg white, fine white sugar, baking powder, ↑
salt → whisk → protein paste

1.3 Main points of Potato Granules Cake production

(1) Separate protein and yolk, leave enough time for protein to whisk, when preparing yolk paste, the addition amount of potato powder, cake flour, bread flour, must be paid attention and screened.

(2) When baking, attention should be paid to the baking time and temperature. In order to bake the cake with beautiful shape and better puffing, cake paper is also needed.

1.4 Setting of Single Factor Conditions for Potato Granules Cake Making

1.4.1 Selection of Potato Granules Cake

Potato Granules Cake can be divided into granular powder and sweet potato flour [3]. In the process of making potato powder, both granular powder and sweet potato flour are used. After comparison, the final decision is to use granular powder. Because the granular powder can be better mixed with other materials in the whole mixing process, and the taste is better. We also added cake flour and bread flour to combine the taste, shape and other factors of the cake. Finally, flour mixing and cake baking will be carried out according to a certain proportion.

1.4.2 Selection of Mixed Powder Proportion for Potato Granules Cake

When the total amount of mixed flour, baking temperature, baking time and vegetable oil content were

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same, the three main factors were the amount of Potato granules mixed with cake flour and bread flour, the amount of fine white sugar and eggs.

Firstly, potato flour was mixed with cake flour in proper proportion. The total quality of the mixed flour is 600g. The sensory evaluation of the baked cake shows that the shape of

the baked potato cake is not full and serious collapse occurs. We consider it's because the weak gluten of the cake flour itself. Therefore, in the subsequent baking process, appropriate amount of high gluten flour was added to bake.

The proportion of potato granules, cake flour and bread flour was selected respectively (Table 1).

Tab. 1 The mass ratio of potato granules to cake flour to bread flour

Potato Granules (g)	Cake flour (g)	Bread flour (g)	Mixed Powder Ratio
300	200	100	3:2:1
400	100	100	4:1:1
500	50	50	10:1:1
300	150	150	2:1:1
300	250	50	6:5:1

Through the above proportion of mixed flour and baking under the same other conditions, the best condition is that the amount of Potato granules, cake flour and bread flour are 300 g, 150 g and 150 g respectively, that is, the ratio is 2:1:1.

1.4.3 Selection of Addition Quantity of Sugar in Potato Granules Cake

After determining the appropriate proportion of mixed powder, the amount of fine white sugar added was selected. Under the mixed powder quality of 300 g, 150 g and 150 g, the amount of fine white sugar was 700 g, 600 g, 500 g, 400 g and 300 g, respectively. Baked with other conditions remain unchanged. The results showed that the sensory evaluation score of the whole potato cake was the highest when the amount of fine white sugar was 500 g.

1.4.4 Selection of Egg Addition in Potato Granules Cake

After determining the proportion of mixed powder and the amount of fine white sugar added, the different amount of

eggs added was selected. When the amount of mixed powder is 300g, 150g and 150g, the amount of white sugar is 500g, the amount of eggs is 1680g (about 28), 1560g (about 26), 1440g (about 24), 1320g (about 22), 1200g (about 20). When the other conditions were unchanged, the sensory evaluation score of the whole potato cake was the highest when the amount of eggs added was 1440g (about 24).

Through single factor experiments, the optimum conditions for making potato cake were obtained as follows: The additions of potato flour, low gluten flour and high gluten flour were 300g, 150g, 500g, 500g of white sugar, 1400g (about 24) of eggs, 50g - 60g of fresh lemonade, 220g of corn oil, and some baking powder and salt. Under these conditions, the sensory score of the cake was better.

1.5 Orthogonal Test Design of Potato Granules Cake

On the basis of the above single factor experiment, L9 (33) orthogonal experiment was designed to determine the preparation conditions of potato cake. The factors of orthogonal experiment are as follows:

Tab. 2 Orthogonal test factors of potato granules cake

level	A Addition Ratio of Mixed Powder		B Sugar Added Amount (g)	C Egg Added Amount (g)
	(Potato granules: cake flour:	bread flour)		
1	2:1:1		450	1300
2	3:2:1		500	1400
3	6:5:1		400	1500

1.6 The sensory evaluation scoring table of potato granules cake is as follows ^[4]

Tab. 3 Potato Granules Cake was scored sensory evaluation

Evaluation items	Criteria	Score	Score
appearance	Full and complete shape, no collapse, shrinkage, no fragmentation, scorched edge, touching	17-20	
	Complete shape, slightly deformed, contracted, collapsed, slightly contaminated	13-16	
	Incomplete shape, deformation, shrinkage, collapse, crushing, scorched edge, dipping edge	0-12	

Color and lustre	The surface of the cake is golden and lustrous, and the interior is light yellow without burnt	17-20
	The surface of the cake is slightly lighter, the gloss is darker and the interior is yellowish and	13-16
	The surface of the cake is too light and glossy and the interior is white and burnt.	0-12
Odor, taste	It has the unique flavor of cake and lemon fragrance, moderate sweetness and good taste.	17-20
	It has cake flavor, no lemon flavor, moderate sweetness and good taste.	13-16
	The cake has a light flavor, no lemon fragrance, slightly fishy taste and overweight taste.	0-12
Structure and	The interior is soft and dense honeycomb-like, without particulate matter, hardness or bubbles.	17-20
	The interior is soft with a few particles and bubbles.	13-16
	The internal structure is loose, with a few particles and bubbles.	0-12
taste	Soft taste, non-sticky, non-sticky teeth	17-20
	Soft entrance, slightly sticky teeth	13-16
	Hard taste, sticky teeth, after entrance	0-12

1.7 Sensory Evaluation of Potato Granules Cake

The baked cakes were sent to 10 professionals engaged in food and other related fields for evaluation. According to the five aspects of Table 3 (i.e. shape, appearance, color, odor, structure, texture, taste), the cake was sensory evaluated and scored, and the final score was averaged.

2. Results and analysis

2.1 Single factor test results

2.1.1 *The effect of different proportion of mixed flour (total mass is 600g, potato granules, cake flour, bread flour) on the preparation conditions of potato cake with full flour was studied. The results are shown in Figure 1.*

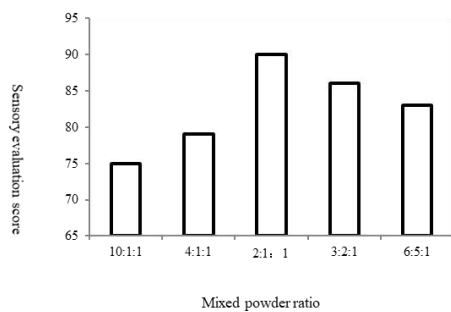


Fig. 1 Mixing ratio

The results show that the sensory evaluation score of the potato granules cake varies with the proportion of mixed flour. When the proportion of mixed flour is 2:1:1 (i.e. 300 g of potato granules) 150 g of cake flour and 150 g of bread flour), the cake not only has high nutritional value, but also has good taste. When the proportion of mixed flour was selected, the cake was hard when the proportion of Potato granules and bread flour was high. When the proportion of total potato granules and cake flour was high, the shape of baked cake was poor. The main manifestation was that the honeycomb structure inside the cake was uneven and collapsed.

2.1.2 *The effect of different amount of sugar on the*

processing conditions of potato granules cake. The results are shown in Figure 2.

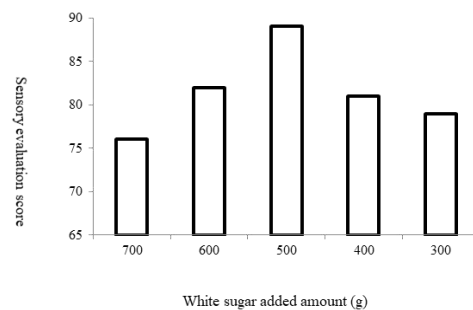


Fig. 2 Amount of sugar added

From the figure above, with the increase of the amount of sugar, the sensory evaluation score of the whole-powder potato cake showed a trend of rising first and then declining. When the amount of sugar was 500 g, the sensory evaluation score of the potato granules cake was the highest. When the amount of sugar is too high, the baked cake is too heavy in color, even has a burnt edge, and the taste is sweet and greasy. When the amount of sugar is small, the baked cake smells of eggs, the whitening degree of egg white is poor, and the taste is rough. [5]

2.1.3 *The effect of different egg amount on the processing conditions of potato granules cake. The results are shown in Figure 3.*

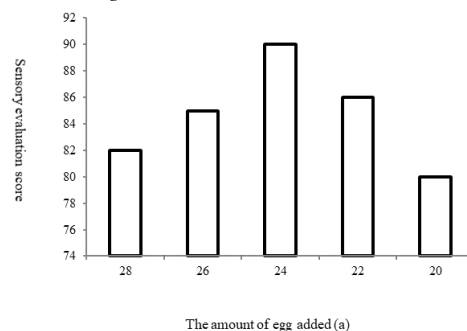


Fig. 3 Egg content

As can be seen from the figure above, with the increase of egg content, the sensory evaluation score of the whole-powder potato cake showed a trend of rising first and then declining. When the egg content was 24 (about 1400 g), the sensory evaluation score of the potato granules cake was the highest.

2.1.4 Determination of the Optimum Conditions for

Making Potato Granules Cake The proportion of potato granules, cake flour and bread flour, the amount of fine white sugar and eggs were taken as the orthogonal test factors. The score of cake sensory evaluation was taken as the index, and the orthogonal test was carried out according to L9 (33) orthogonal table. The experimental design and results are shown in Table 4.

Tab. 4 Orthogonal experiment design and result table for making potato granules cake with whole flour

Number	A Mixed Powder Ratio	B Sugar Addition (g)	C Egg Addition (g)	Sensory score
1	1	1	1	87.3
2	1	2	2	90.1
3	1	3	3	86.9
4	2	1	2	88.4
5	2	2	3	86.3
6	2	3	1	89.2
7	3	1	3	87.5
8	3	2	1	85.8
9	3	3	2	88.6
K1	264.5	263.4	262.5	
K2	263.9	262.2	266.0	
K3	263.5	264.7	260.7	
k1	88.2	87.8	87.5	
k2	88.0	87.4	88.7	
k3	87.8	88.2	86.9	
R	0.2	0.8	1.8	

It can be seen from the above table that the effects of three factors on the sensory quality of potato cake are as follows: the proportion of mixed powder > the amount of soft sugar > the amount of eggs. Finally, the optimum conditions for making potato cake were determined as follows:A1B2C2. That is, the proportion of mixed flour (600g, Potato granules: cake flour: bread flour) is:2:1:1, 500 g of fine white sugar and 1 400 g of eggs.

3. Conclusion

Potato granules cake was made with potato granules as the main raw material. Through the optimization of research process and production conditions, the optimum production conditions were obtained as follows: The proportion of mixed flour (600g, Potato granules, cake flour and bread flour) was as follows:2:1:1, 500 g of fine white sugar, 1 400 g of eggs, 13 g of baking powder, 1 lemon, 250g of corn oil, a little baking powder and salt. Compared with ordinary cakes, potato granules cake has better color and taste,

stronger fragrance and higher nutritional value.

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Thermal Analysis and Design of the Load Cabin of Near Space Based on Finite Element Method

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Abstract: Due to the particularity of the geographical location of the near space, more and more attention has been paid by the countries around the world. Considering the complex and changeable thermal environment in the near space, the finite element method is used to analyze the thermal environment of the load cabin in this paper. The design of the load cabin is based on this analysis. Firstly, it is necessary to analyze the ways of heat transfer, and the heat control measures would be designed for the load cabin. Then, the finite element model is established by the ANSYS software after the boundary conditions of the thermal analysis being clearly defined. Finally, the temperature distribution of the surface of the loads is calculated by the module of Icepak, thus the design parameters can be optimized and the optimal results are obtained. The simulation results show that the thermal control measures can keep the temperature of the load cabin above 0°C under the environment of the near space. And it would facilitate the start and operation of the devices in the load cabin. Above all, it would lay the foundation for the scientific experiment in the near space.

Key words: near space, load cabin, finite element method, thermal analysis, thermal environment

1. Introduction

Recently, with the higher attention of the development and utilization of near space, more and more people have begun to design various devices to work in near space. Due to the rapid development of near space vehicles in recent years,^{[1] [2]} all kinds of photoelectric devices have been applied to near space^[3]. The special environmental conditions, especially the thermal environment, have great influence on the reliability and stability of the optoelectronic device in the load cabin. Therefore, many scholars have described thermal control measures of these photoelectric devices in detail^[4]. However, the introduction of thermal analysis and design for the cabin load is still scanty^{[5][6][7]}.

In this paper, the load cabin is integrated with photoelectric devices, and it is carried by high-altitude balloons to carry out scientific experiments in the near space^[8]. At the altitude about 20km, the balloon would fly at a relatively steady speed in order to ensure that all loads in

the load cabin will carry out scientific experiments in the near space. In consideration of the low temperature in the near space, it is necessary to control the temperature environment of the load cabin above 0°C in order to ensure the normal start of loads in the load cabin. As a result, it is also essential to simulate and analyze the thermal environment in the load cabin, and provide the thermal control measures to ensure the temperature of the load cabin to meet the design requirements and ensure the normal operation of loads.

In section 2, the introduction and composition of the near space load cabin are introduced. Section 3 shows the thermal environment of the load cabin. The section 4 is thermal analysis of the main structure of the load cabin. In section 5, the thermal design and strategies of the load cabin are introduced. Section 6 describes the finite element model of the load cabin, and it shows the result of the finite element analysis. Section 7 introduces the data analysis and the optimization treatment. Section 8 analyses the model to get a

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conclusion.

2. Composition of the load cabin

As shown in Figure 2, the model of near space load cabin is simplified. The load cabin which is $666\text{mm} \times 664\text{mm} \times 525\text{mm}$ includes 2 parts, the upper compartment and the lower compartment which are separated by a divider plate. The upper compartment of the load cabin consists of three modules: the power module, the data transmission machine and the original detector box. The lower compartment mainly includes the camera, the sounding data receiver, the lightning meter, the temperature control module, and the storage devices. The storage devices include the SMCM box, the AVCM box and the NFSM box. At the same time, an active heating device would be added in the load cabin, and it is located in the center of the load cabin.

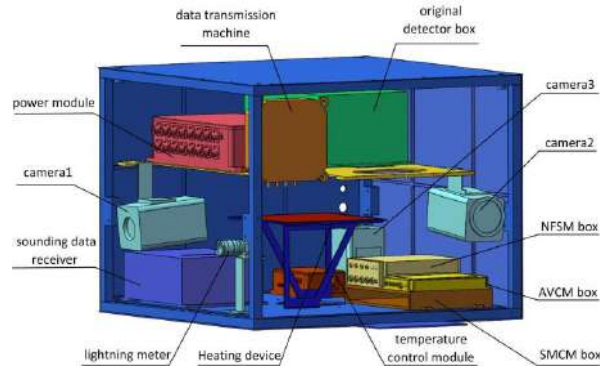


Figure 2. The structure and composition of the load cabin

3. Thermal environment of the load cabin

3.1 The external thermal environment of the load cabin

The load cabin is carried to near space by the high-altitude balloons in order to make scientific experiments, and the outside of the load cabin would directly contact the outside air. In this paper, the load cabin mainly works at the altitude about 20km. When the components of the load cabin work normally, the external conditions are listed as follows:

The ambient temperature of air outside the load cabin is about -56.5°C , the density of air outside the load cabin is about $0.0889\text{kg}/\text{m}^3$, and the external pressure of air is about 5500Pa ^{[9][10]}.

3.2 The internal heat sources of the load cabin

Most of the devices in load cabin are electronic devices and the follow-up simulation experiment needs to set the boundary conditions reasonably. The main heating components and their heating power in the load cabin are given in Table 1.

Table 1. Heat source and its power

Heat source	sounding data receiver	power module	data transmission machine	original detector box
Power(W)	4	35	10	3

In addition, with the consideration of the low temperature in the near space, it is unreliable to ensure the normal operation of the device in the load cabin only by the heat generated by the components themselves^[9]. Therefore, it is essential to set up the active heating device in the lower compartment to provide heat for the system. The reason why it is located in the lower compartment of the load cabin is taking into account the distribution of the heating components of the system. In other words, the heating device is installed in the lower compartment of the load cabin so that the temperature difference between the upper and lower compartment in the load cabin is diminished. However, the accurate heating power of the heating device needs to be obtained through the simulation experiments.

4. Thermal analysis of the main structure of the load cabin

It is necessary to establish the thermal environment model of the cabin accurately before using the finite element method to simulate the load cabin. Due to the temperature difference everywhere in nature and production process, heat transfer is a very common phenomenon. In the ANSYS application, the thermal analysis model is also based on the natural heat transfer model. In the ANSYS thermal analysis, the simulation of the heat transfer process is also divided into three ways, which are composed of three basic heat transfer modes: heat conduction, heat convection and heat radiation. In this paper, the load cabin also carries out simulation analysis around these three heat transfer modes.

4.1 Heat conduction

The first heat transfer is heat conduction, which can be defined as the exchange of heat caused by temperature difference between two contact objects or the different parts of the same object. In this system, the conduction heat transfer occurs mainly in the various components within the

cabin itself and between different contact parts of the cabin.

The heat conduction in the load cabin is related to the material, thickness and area. The heat conduction process follows the Fourier's Law :

$$q = -K \frac{\partial T}{\partial n} \quad (1)$$

Where, q is heat flux, K is thermal conductivity, $\frac{\partial T}{\partial n}$ is the temperature gradient along the direction, and minus sign indicates the direction of heat flow to the direction of lower temperature^[4].

4.2 Heat convection

The second way of heat transfer is heat convection, which refers to the phenomenon that heat is transferred from one location to another by means of fluid movement. In this paper, it refers to the heat exchange between fluid and solid in direct contact. Because of the actual engineering requirements in the design process, there are no fans in the design. And there is no gas exchange between the interior and the outside environment of the load cabin. Therefore, the influence of heat convection in this paper is relatively small, only natural convection which is the air flows naturally by the principle of natural flow of air flow.

The heat convection process can be expressed by Newton's law of cooling:

$$q = h_f (T_s - T_B) \quad (2)$$

Here, q is heat flux, h_f is the convective heat transfer coefficient, T_s is the temperature of the solid surface, and T_B is temperature of the surrounding fluid^[4].

4.3 Heat radiation

The third way of heat transfer is heat radiation, which refers to the phenomenon that heat is exchanged by electromagnetic energy. The heat of radiation in unit time is proportional to the temperature. The higher the temperature, the more heat it radiates. Both heat conduction and heat convection require heat transfer medium, and no medium is required for heat radiation. In fact, each object radiates heat and absorbs heat in the process of radiative heat transfer.

There are two kinds of radiation in this paper, the first is the radiation between the load cabin and the external environment, and the second is the mutual radiation between the components of the load cabin. With the consideration of the particularity of the near space environment, heat radiation is also a relatively important way in the three modes of heat transfer.

Considering the change of net heat, the process of heat radiation can be described by Stefan-Boltzmann law:

$$Q = \varepsilon \sigma A_1 F_{12} (T_1^4 - T_2^4) \quad (3)$$

Where, Q is the heat flux, ε is the absorption rate, σ is Stefan-Boltzmann constant which is $5.67 \times 10^{-8} \text{ W}/(\text{m}^2 \cdot \text{K}^4)$, F_{12} is the shape coefficient which is the first radiant surface to the second radiant surface, T_1 is the absolute temperature of the first radiant surface, and T_2 is the absolute temperature of the second radiant surface^[4].

5. The thermal design and strategies of the load cabin

The main thermal control indexes of the load cabin:

(1)The temperature difference between the steady-state temperature and initial temperature should not exceed 60°C in the load cabin.

(2)when the load cabin works in the near space, it is necessary to maintain the cabin temperature above 0 °C in order to start up some device at high altitude.

Since these two points will interact with each other, the load cabin will be analyzed based on the two points in order to meet the thermal control index. The design relies on the results of analysis, and the analysis results will change due to changes of the design. In this paper, the design mainly includes passive measures and active measures to control the thermal environment in the load cabin^{[6][7]}.

5.1 Passive measures

5.1.1 Multihole structure

In view of the wide range of the devices in the load cabin, it is necessary to change the structure to facilitate the mutual heat transfer between the upper compartment and lower compartment. As shown in Figure 2, with the consideration of the strength, a Multihole structure is adopted for the dividing plate between the two compartments, which facilitates the heat transfer of the upper compartments and lower compartments, and it can reduce the temperature difference of the two compartments as much as possible.

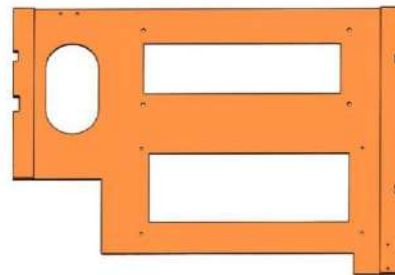


Figure 2. Dividing plate

5.1.2 Application of polyurethane thermal insulation material

The environment of the near space is complex and changeable, especially the thermal environment. The load cabin is located at the high altitude about 20km. The thermal

insulation material is added to the load cabin with the consideration of the influence of the low temperature. So, it will make the temperature of the load cabin remain relatively stable, which is an important part of the thermal control design.

Polyurethane insulation material is used here because it has low thermal conductivity and good thermal performance. Moreover, it has high temperature resistance, high resistance to deformation and it is not easy to crack. At the same time, its density is generally $35 \sim 40 \text{ kg/m}^3$, thermal conductivity is generally $0.018 \sim 0.024 \text{ W/(m} \cdot \text{K)}$, and it is the lowest thermal conductivity of all insulation materials at

Table 2.

Table 2. Material parameter table

Main component	material	Density (kg/m^3)	Thermal conductivity ($\text{W/(m} \cdot \text{K)}$)	specific heat ($\text{J/(kg} \cdot \text{K)}$)
outer plate	polyurethane Thermal insulation material	40	0.018	1500
others	aluminum alloy	2770	177	875

5.2 Active measures

The above passive measures have laid the foundation for the stability of the internal thermal environment in the load cabin. However, they cannot meet requirements for the thermal control design index. Accordingly, an active heating device is added to achieve the design index of thermal control. Here, carbon nanotubes are used to heat the main cabin of the load service cabin. it is also the first time to use carbon nanotubes to heat objects. Most of the traditional heaters are pasted on the surface of the components to carry out heat transfer. The heating sheet made of carbon nanotubes mainly uses the principle of thermal radiation to conduct heat transfer. This paper would be helpful for people to know the application of carbon nanotubes in heating sheet.

Its shape can be customized according to requirements. As shown in the

Figure 3, the rectangle structure which is $300\text{mm} \times 200\text{mm}$ is used here. Through the previous simulation experiments, it is shown that the heating sheet is located at 20mm below the center position in order to ensure the temperature uniformity in the load cabin.

The power of the unit area should not exceed 1W/cm^2 for the heating sheet. The power of the initial heating sheet is 120W, and the actual power can be obtained by simulation analysis.

present [11].

Therefore, considering its good insulation performance, it can reduce the thickness of the outer structure of the load cabin, increase the useful area in the cabin, and reduce the overall weight when it reaches the same thermal insulation requirements. The polyurethane material is used as the insulation based on the above advantages. In this paper, the thickness of the insulation material is 10mm. The polyurethane insulation plates are located at the inner surface of the load cabin shell. For other structures in the load cabin, aluminum alloy material is used, and its location and main material parameters are shown in



Figure 3. Heating sheet

6. The finite element analysis model and the result

6.1 The establishment of the finite element analysis model

The basic idea of the finite element method is to discretize the structure and use a finite number of simple units to represent the complex objects. The elements are connected to each other by a finite number of nodes, and then they are solved synthetically according to the boundary conditions. Because the number of units and nodes in the analysis is limited, it is called the finite element method. Because the elements in this method have different combinations, and the unit itself can have different shapes, such as tetrahedron and hexahedron, the irregular geometry model can be simulated in practical application [12][13].

In this paper, the finite element method is used to analyze the internal thermal environment of the load cabin, which is to discretize the internal structure of the load cabin and divide it into a limited unit. Firstly, it is to divide mesh of each component in load cabin. Then, the thermal

characteristics of each component are simulated by ANSYS software. Finally, the surface temperature distribution of each component is obtained.

6.1.1 Simplification of the model

As shown in Figure 4, the model of the original load cabin is simplified by using ANSYS software. Each electronic component in the figure is simplified by ANSYS software, which reduces complex surface and small size components in order to facilitate subsequent simulation analysis. We remove the plates around the original model at first. Then we define the six walls as 10mm thick wall whose material is polyurethane in the software. So we only need to analyze the temperature distribution in the load cabin under the protection of thermal insulation material, and the outside metal plate of the load cabin is avoided. Therefore, the external temperature of the insulation material is consistent with the ambient temperature. And it would reduce the simulation structure and the simulation time. At the same time, the heating sheet is simplified into an ideal heat source generated by software as shown in the black area. Considering the thermal power difference between the upper component and lower component of the load cabin, the heating sheet is located at 20mm under the load cabin.

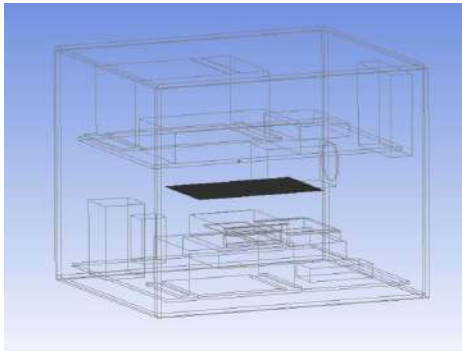


Figure 4. The simplified model of the load cabin

6.1.2 The governing equations of heat transfer

ANSYS Icepak is used for thermal analysis of this load service cabin. The module is solved by calculating the governing equations of mass, momentum and energy transfer. The following are the expressions of the governing equations:

- (1) Mass conservation equation:

$$\nabla \cdot \vec{v} = 0 \quad (4)$$

- (2) Momentum conservation equation:

$$\frac{\partial}{\partial t}(\rho \vec{v}) + \nabla \cdot (\rho \vec{v} \vec{v}) = -\nabla \cdot \mathbf{P} + \nabla \cdot (\bar{\tau}) + \rho \cdot \vec{g} + \vec{F} \quad (5)$$

- (3) Energy conservation equation:

$$\frac{\partial}{\partial t}(\rho h) + \nabla \cdot (\rho h \vec{v}) = \nabla \cdot [(K + K_t)\Delta T] + S_h \quad (6)$$

Where, \vec{v} is velocity (m/s), ρ is density (kg/m³), \mathbf{P} is static pressure (Pa), $\bar{\tau}$ is stress tensor (Pa), \vec{g} is gravitational acceleration (m/s²), \mathbf{K} is molecular conductivity ($\Omega \cdot m$), K_t is conductivity ($\Omega \cdot m$), T is temperature (K), S_h is constant cumulative heat source(W).

6.1.3 The boundary conditions

There are two types of boundary conditions for the load cabin. The first is the boundary conditions of the wall and surface, including the boundary conditions such as temperature, radiation and thermal conductivity. The second is the setting of the heating sources which related with time or temperature. The specific conditions are as follows:

(1)The setting of material parameters: assuming that the materials are all ideal and isotropic elasticity materials without defects, then the density, thermal conductivity, specific heat and other physical parameters should be set up.

(2)The air density, air pressure, temperature and other external conditions in the near space should be defined.

(3)Considering that the heat convection plays a less role in the three ways of heat transfer in the load cabin, we mainly set the radiation condition for the simulation, and the radiation angle coefficient will be calculated automatically.

(4)The power of the heat source is defined, and the heat source is assumed to be the ideal heat source. According to the results of the previous experiments, the power of the heat sheet is tentatively defined as 120W, and the specific power is determined by the follow-up simulation analysis.

6.1.4 The division of the finite element mesh

We need to generate mesh after setting the boundary conditions for this finite element model. The finer the mesh is, the more accurate the results are, and the longer the simulation time is. In fact, the parameters are recommended by the software, and the automatic unstructured grid is divided by the software module, which can generate tetrahedron, five sides, hexahedron and mixed grid. In this way, the accuracy of the simulation results can be maintained to a certain extent, and the hardware devices can run smoothly. As shown in Figure 5, the number of elements is 1972517, and the number of nodes is 2020016.

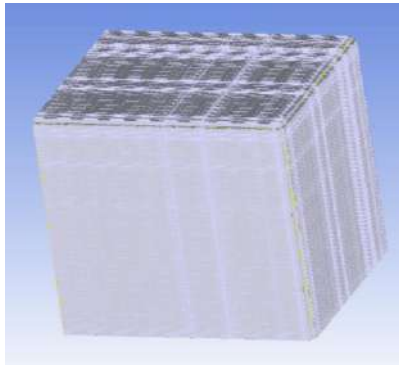


Figure 5. The division of the finite element

6.2 The result of the simulation

In the process of simulating the model, the number of iterations is greatly influenced by the number of iterations. The more iteration times are, the longer simulation time is. Taking into account the actual situation, the number of iterations is 50 in this analysis process. As shown in Figure , it is a residual trace map. It can be seen that the trajectory is gradually slow in the later period of the iteration, which shows that the simulation analysis is convergent and the reliability of the simulation results can be guaranteed.

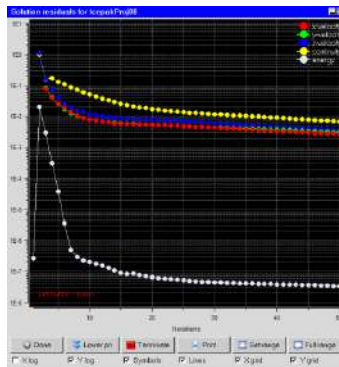


Figure 6. Residual trace map

As shown in Figure7,Figure8 and Figure9, it is the temperature distribution of all the devices in the load cabin. In order to ensure the normal operation of the components in the load cabin, especially to ensure the normal operation of the device in near space, it is necessary to keep the temperature above 0 °C. By the figures, we can know that:

(1)When the power of the heating sheet is 120W, the highest temperature is 4.99 °C, which occurs in the upper part of the load cabin. The lowest temperature is -1 °C, which occurs in most of the lower part of the load cabin.

(2)When the power of the heating sheet is 130W, the highest temperature is 7.68°C, which occurs in the upper part of the load cabin. The lowest temperature is 2°C, which occurs in most of the lower part of the load cabin.

(3)When the power of the heating sheet is 140W, the

highest temperature is 10.41°C, which occurs in the upper part of the load cabin. The lowest temperature is 4°C, which occurs in most of the lower part of the load cabin.

In a word, it can be seen from the simulation results that the power of heat sheet at about 130W can ensure that the temperature in the load cabin is basically above 0°C.However, considering that the temperature in the cabin should not change too large, 130W is advisable, which can guarantee the normal demand and ensure the normal start and operation of the devices in the load cabin. The heating sheet can be properly offset to the direction of the bottom plate with the consideration of the heat of other electronic components and the results of thermal simulation analysis. According to the previous experimental results, the offset can not exceed 20mm, which can not only reduce the temperature difference between the upper and lower two compartments, but also avoid the local overheating caused by the heating sheet.

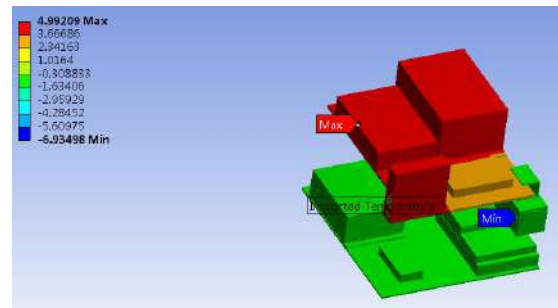


Figure 7. The power of the heating sheet is 120W

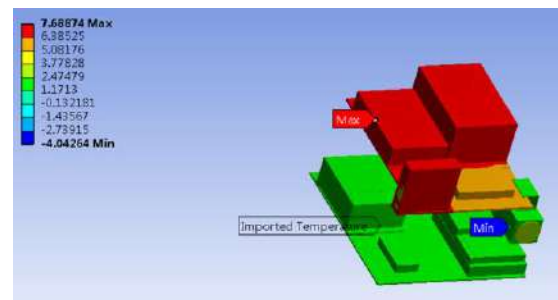


Figure 6. The power of the heating sheet is 130W

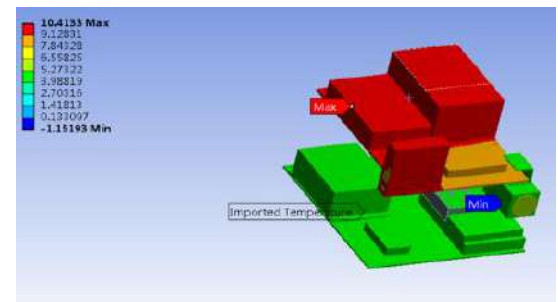


Figure 7. The power of the heating sheet is 140W

6.3 Experiment

The load service cabin is delivered to the near space by high altitude balloon for scientific experiments. As shown in Figure 10, it is the object of the load service cabin. It would carry out scientific experiments in the near space for a period of time, and then land on the ground at a certain speed. Experiments show that the temperature in the load service cabin always keeps above 0 °C, and there is no freezing phenomenon. The devices in the load cabin still operate normally when recovered. In short, the design meets the experimental requirements. The thermal simulation is real and effective, which provides theoretical support for the reliability of the load service cabin and parameter basis for the next scientific experiment.



Figure 10. The object of the load service cabin

7. Conclusion

In this paper, the finite element method is used to simulate the thermal environment in the load cabin. And the temperature distribution in the load cabin is obtained through the internal algorithm. Through the analysis of the cloud picture, the surface temperature distribution of each component in the load cabin can be analyzed intuitively. Then the position and power of the heating sheet can be adjusted in order to meet the requirements of the thermal control index, and it also provides the suitable temperature for the normal start and operation of all kinds of photoelectric devices in the load tank, and lays the foundation for the scientific testing in the near space. At the same time, it has passed the experimental verification, which shows that the simulation is real and effective.

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(g, f) -Factorization (m, r) – Orthogonal To Bipartite Graphs

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Abstract: Let G be a graph with vertex set $V(G)$ and edge set $E(G)$, let $g(x)$ and $f(x)$ be two nonnegative integer-valued functions defined on $V(G)$ such that $g(x) \leq f(x)$ for every $x \in V(G)$. Then a (g, f) -factor of G is a spanning subgraph F of G such that $g(x) \leq d_F(x) \leq f(x)$ for each $x \in V(G)$. Let $G = (X, Y, E(G))$ be a bipartite $(mg + (m-1)r, mf - (m-1)r)$ -graph, there are two conclusions: (1) If $0 \leq g(x) \leq f(x)$ for each $x \in V(G)$, Set H_1, H_2, \dots, H_r is m -subgraph with r vertex disjoint, then G has a (g, f) -factorization orthogonal to every $H_i, 1 \leq i \leq r$. (2) If $\frac{r}{m} \leq g(x) \leq f(x)$ for each $x \in V(G)$, H is a subgraph of G with mr edges, then there exists a (g, f) -factorization (m, r) -orthogonal to H .

Key words: graph, Factor, Factorization, (m, r) -Orthogonal

Introduction

Let G be a finite and undirected graph with vertex set $V(G)$ and edge set $E(G)$. Let $g(x)$ and $f(x)$ be two nonnegative integer-valued functions defined on $V(G)$ such that $g(x) \leq f(x)$ for every $x \in V(G)$. Then a (g, f) -factor of G is a spanning subgraph F satisfying $g(x) \leq d_F(x) \leq f(x)$ for each $x \in V(G)$. In particular, if G itself is a (g, f) -factor, then G is called a (g, f) -graph. For each $x \in V(G)$, If there is $mg + (m-1)r \leq d_G(x) \leq mf - (m-1)r$, then G is a $(mg + (m-1)r, mf - (m-1)r)$ -graph.

If the edge sets of G can be divided into m edge-disjoint (g, f) -factorization F_1, F_2, \dots, F_m , then $F = \{F_1, F_2, \dots, F_m\}$ is regarded as a (g, f) -factorization of graph G . Let H be a subgraph of G that has mr edges (m and r are positive integer). A (g, f) -factorization $F = \{F_1, F_2, \dots, F_m\}$ of graph G is orthogonal to $H(m, r)$ if $|E(H) \cap E(F_i)| = r$ for all $1 \leq i \leq m$. Other notations and definitions can be found in reference [1].

1. Lemma

Lemma 1 [1] Let G be a $(mg + m - 1, mf - m + 1)$ -graph and g and f be two integer-valued function defined on $V(G)$ such that $0 \leq g(x) \leq f(x)$ for every $x \in V(G)$. Then H is a subgraph of G that has m edges, and there exists a (g, f) -factorization of G with orthogonal to H .

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Let $G = (X, Y, E(G))$ be a bipartite graph, $g(x)$ and $f(x)$ be two nonnegative integer-valued function defined on $V(G)$ such that $g(x) \leq f(x)$ for every $x \in V(G)$. Let E_1 and E_2 be two disjoint subsets of $E(G)$. For $S \subseteq X, T \subseteq Y$, set $E_{iS} = E_i \cap E_G(S, Y \setminus T)$, $E_{iT} = E_i \cap E_G(T, X \setminus S)$, $i = 1, 2$

and $\alpha_s = |E_{1S}|, \alpha_T = |E_{1T}|, \beta_S = |E_{2S}|, \beta_T = |E_{2T}|$.

Lemma 2 [2] Let $G = (X, Y, E(G))$ be a bipartite graph, $g(x)$ and $f(x)$ be two nonnegative integer-valued function defined on $V(G)$ such that $0 \leq g(x) \leq f(x)$ for every $x \in V(G)$. Let E_1 and E_2 be two disjoint subsets of $E(G)$. Then G has a (g, f) -factor F_1 such that $E_1 \subseteq E(F_1)$ and $E_2 \cap E(F_1) = \emptyset$ if and only if for each $S \subseteq X$ and each $T \subseteq Y$, have:

$$\gamma_{1G}(S, T, g, f) = d_{G-S}(T) - g(T) + f(S) \geq \alpha_s + \beta_T$$

and

$$\gamma_{2G}(S, T, g, f) = d_{G-T}(S) - g(S) + f(T) \geq \alpha_s + \beta_T$$

Lemma 3 [3] Now we assume that G is a bipartite $(mg + (m-1)r, mf - (m-1)r)$ -graph where $m \geq 2$ is an integer. Define

$$p(x) = \max\{g(x), d_G(x) - (m-1)f(x) + (m-2)r\}$$

and

$$q(x) = \min\{f(x), d_G(x) - (m-1)g(x) - (m-2)r\}$$

then $g(x) \leq p(x) \leq \frac{d_G(x) - r}{m} < \frac{d_G(x) + r}{m} \leq q(x) \leq f(x)$

Lemma 4 [4] Let G be a bipartite $(mg + (m-1)r, mf - (m-1)r)$ -graph where $m \geq 2$ is an integer. Definitions of $p(x), q(x)$ is similar to Lemma 3, then for $S \subseteq X$ and $T \subseteq Y$,

$$\gamma_{1G}(S, T, p, q) = d_{G-S}(T) - p(T) + q(S) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S)$$

and

$$\gamma_{2G}(S, T, p, q) = d_{G-T}(S) - p(S) + q(T) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-T}(S) + \frac{1}{m}d_{G-S}(T)$$

2. Main Theorems and Proof

Theorem 1 Let $G = (X, Y, E(G))$ be a bipartite $(mg + (m-1)r, mf - (m-1)r)$ -graph. m, r are positive integer and let g and f be two positive integer-valued functions defined on $V(G)$ such that $0 \leq g(x) \leq f(x)$ for every $x \in V(G)$. Let H_1, H_2, \dots, H_r be m -subgraphs of G with r edges such that G has a (g, f) -factorization orthogonal to any given $H_i, 1 \leq i \leq r$.

Proof: If $m = 1$, the theorem is true. If $r = 1$, then by Lemma 1, this theorem is also true. In the following we assume that $m \geq 2, r \geq 2$, Definitions of $p(x), q(x)$ are the same as those in Lemma 3. For all $u_i v_i \in H_i, i = 1, 2, \dots, r$,

$$E_1 = \{u_i v_i : 1 \leq i \leq r\}, E_2 = (\bigcup_{i=1}^r E(H_i)) \setminus E_1, \text{ then } |E_1| = r, |E_2| = (m-1)r.$$

By Lemma 4, we have:

$$\gamma_{1G}(S, T, p, q) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S)$$

$$\gamma_{2G}(S, T, p, q) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-T}(S) + \frac{1}{m}d_{G-S}(T)$$

For the sake of convenience, we simply it as $\gamma_{1G} = \gamma_{1G}(S, T, p, q)$, $\gamma_{2G} = \gamma_{2G}(S, T, p, q)$. Prove first that G has a (p, q) -factor F_1 such that $E_1 \subseteq E(F_1), E_2 \cap E(F_1) = \emptyset$. By Lemma 2, we only need to prove that: for each $S \subseteq X$ and each $T \subseteq Y$, then we have $\gamma_{1G} \geq \alpha_s + \beta_T$ and $\gamma_{2G} \geq \alpha_T + \beta_S$.

We prove the first inequality. Similarly, the second one can be proved. Notice the following:

$$(a) \text{ For } \forall x \in V(G), d_G(x) \geq mg + (m-1)r \geq (m-1)r; \quad (b) \alpha_s \leq \min\{r, |S|, d_{G-T}(S)\},$$

$$(c) \beta_T \leq \min\{(m-1)r, (m-1)|T|, d_{G-S}(T)\}.$$

Now let's discuss S, T :

$$(1) S = \emptyset \text{ and } T = \emptyset, \text{ by this time } \alpha_s = 0, \beta_T = 0, \text{ therefore } \gamma_{1G} = 0 = \alpha_s + \beta_T$$

$$(2) S \neq \emptyset \text{ and } T = \emptyset, \text{ by this time } \beta_T = 0, \text{ therefore}$$

$$\gamma_{1G} \geq \frac{r}{m}|S| + \frac{1}{m}d_G(S) \geq \frac{r}{m}|S| + \frac{m-1}{m}r|S| \geq \frac{1}{m}\alpha_s + \frac{m-1}{m}\alpha_s \geq \alpha_s + \beta_T$$

$$(3) S = \emptyset \text{ and } T \neq \emptyset, \text{ by this time } \alpha_s = 0, \text{ therefore}$$

$$\gamma_{1G} \geq \frac{m-1}{m}d_G(T) \geq \frac{m-1}{m}(m-1)r|T| \geq (m-1)|T| \geq \alpha_s + \beta_T$$

$$(4) S \neq \emptyset \text{ and } T \neq \emptyset,$$

$$(i) \text{ If } |T| \leq (m-1)r - 1,$$

$$\text{then } |T| + d_{G-T}(S) \geq |T| + ((m-1)r - |T|)|S|$$

$$\geq |T| + ((m-1)r - |T|) + ((m-1)r - |T|)(|S| - 1)$$

$$\geq (m-1)r + |S| - 1 \geq (m-1)r + \alpha_s - 1 \geq (m-1)\alpha_s + \alpha_s - 1 = m\alpha_s - 1$$

$$\text{If } |T| > (m-1)r - 1, \text{ then } |T| + d_{G-T}(S) > (m-1)r - 1 + \alpha_s \geq (m-1)\alpha_s - 1 + \alpha_s = m\alpha_s - 1$$

$$(ii) \text{ If } |S| \leq (m-1)r - (m-1),$$

$$\text{then } |S| + d_{G-S}(T) \geq |S| + ((m-1)r - |S|)|T|$$

$$\geq |S| + ((m-1)r - |S|) + ((m-1)r - |S|)(|T| - 1)$$

$$\geq (m-1)r + (m-1)(|T| - 1) = (m-1)r + (m-1)|T| - (m-1)$$

$$\geq \beta_T + \beta_T - (m-1) \geq 2\beta_T - m + 1$$

If $|S| > (m-1)r - (m-1)$, then $|S| + d_{G-S}(T) > (m-1)r - (m-1) + \beta_T \geq 2\beta_T - m + 1$

therefore
$$\begin{aligned} \gamma_{IG} &\geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S) \\ &= \frac{1}{m}(|T| + d_{G-T}(S) + |S| + d_{G-S}(T) + (m-2)d_{G-S}(T) + (r-1)(|T| + |S|)) \\ &\geq \frac{1}{m}(m\alpha_s - 1 + 2\beta_T - m + 1 + (m-2)\beta_T + 2) \geq \alpha_s + \beta_T - \frac{m-2}{m} \end{aligned}$$

Because γ_{IG} is an integer, we can have $\gamma_{IG} \geq \alpha_s + \beta_T$.

By Lemma 2, we come to this conclusion: G has a (p, q) -factor F_1 such that for $E_1 \subseteq E(F_1)$, $E_2 \cap E(F_1) = \emptyset$. $\because g(x) \leq p(x) < q(x) \leq f(x)$, $\therefore F_1$ is also a (g, f) -factor of G . (*) Set $G_1 = G - E(F_1)$, By the definition of $p(x)$ and $q(x)$, $G_1 = G - E(F_1)$ is a bipartite $((m-1)g + (m-2)r, (m-1)f - (m-2)r)$ -graph.

Now we prove Theorem 1.

When $m=1$, certainly it is true. Suppose the theorem holds for $m-1$. We now prove it also applies to m . Let $H_i'' = H_i \setminus u_i v_i, 1 \leq i \leq r$, because of (*), G has a (g, f) -factor F_1 having E_1 but not E_2 , making $G_1 = G - E(F_1)$ a bipartite $((m-1)g + (m-2)r, (m-1)f - (m-2)r)$ -graph. Clearly $H_1'', H_2'', \dots, H_r''$ is a subgraph of G_1 with r vertex disjoint and $m-1$ edges. By inductive analysis, G_1 has a (g, f) -factorization $F = \{F_2, \dots, F_m\}$ orthogonal to every H_i'' , for $1 \leq i \leq r$. Thus G has a (g, f) -factorization $F = \{F_1, F_2, \dots, F_m\}$ orthogonal to every $H_i, 1 \leq i \leq r$. We have now proven Theorem 1.

Theorem 2 Let $G = (X, Y, E(G))$ be a bipartite $(mg + (m-1)r, mf - (m-1)r)$ -graph. m, r are positive integer

and let g and f be two positive integer-valued functions defined on $V(G)$ such that $\frac{r}{m} \leq g(x) \leq f(x)$ for $\forall x \in V(G)$. Let H be a subgraph of G with mr edges, then G has a (g, f) -factorization orthogonal to every $H(m, r)$.

Proof: If $m=1$, the theorem is true. If $r=1$, then by Lemma 1, this theorem is also true. In the following we assume that $m \geq 2, r \geq 2$, Definitions of $p(x), q(x)$ the same as those in Lemma 3. By Lemma 4, we have:

$$\gamma_{1G}(S, T, p, q) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S)$$

$$\gamma_{2G}(S, T, p, q) \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-T}(S) + \frac{1}{m}d_{G-S}(T)$$

For the sake of convenience, we simply it as $\gamma_{1G} = \gamma_{1G}(S, T, p, q)$, $\gamma_{2G} = \gamma_{2G}(S, T, p, q)$. Let H be a subgraph of G with mr edges. For all then $|E_2| = (m-1)r$.

Now we only need to prove G has a (p, q) -factor F_1 , enabling $E_1 \subseteq E(F_1)$ and $E_2 \cap E(F_1) = \emptyset$. By inductive

reasoning, we can prove it is true. By the conclusion from Lemma 2, as long as for each $S \subseteq X$ and each $T \subseteq Y$, then we have $\gamma_{1G} \geq \alpha_s + \beta_T$ and $\gamma_{2G} \geq \alpha_T + \beta_S$.

We prove the first inequality. Similarly, the second one can be proved. Notice the following:

$$\begin{aligned} \text{(a)} \quad & \forall x \in V(G), d_G(x) \geq mg + (m-1)r \geq mr; & \text{(b)} \quad & \alpha_s \leq \min\{r, d_{G-T}(S)\}; \\ \text{(c)} \quad & \beta_T \leq \min\{(m-1)r, d_{G-S}(T)\}. \end{aligned}$$

Now let's discuss S, T :

$$\text{(1)} \quad S = \phi \quad \text{and} \quad T = \phi, \quad \text{by this time} \quad \alpha_s = 0, \beta_T = 0, \quad \text{therefore} \quad \gamma_{1G} = 0 = \alpha_s + \beta_T.$$

$$\text{(2)} \quad S \neq \phi \quad \text{and} \quad T = \phi, \quad \text{by this time} \quad \beta_T = 0, \quad \text{therefore}$$

$$\gamma_{1G} \geq \frac{r}{m}|S| + \frac{1}{m}d_G(S) \geq \frac{r}{m}|S| + \frac{1}{m}(mr)|S| \geq r \geq \alpha_s + \beta_T$$

$$\text{(3)} \quad S = \phi \quad \text{and} \quad T \neq \phi, \quad \text{by this time} \quad \alpha_s = 0, \quad \text{therefore}$$

$$\gamma_{1G} \geq \frac{r}{m}|T| + \frac{m-1}{m}d_G(T) \geq \frac{r}{m}|T| + \frac{m-1}{m}(mr)|T| \geq (m-1)r \geq \alpha_s + \beta_T$$

$$\text{(4)} \quad S \neq \phi \quad \text{and} \quad T \neq \phi,$$

$$\text{(i)} \quad |S| = 1,$$

$$\begin{aligned} \text{If } |T| = 1, \quad \text{then} \quad \gamma_{1G} & \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S) \\ & \geq \frac{r}{m} + \frac{r}{m} + \frac{m-1}{m}(mr-1) + \frac{1}{m}(mr-1) \\ & \geq \frac{2r}{m} - 1 + r + (m-1)r \geq \alpha_s + \beta_T + \frac{2r}{m} - 1 \end{aligned}$$

Because γ_{1G} is an integer, we can have: $\gamma_{1G} \geq \alpha_s + \beta_T$

$$\begin{aligned} \text{If } |T| \geq 2, \quad \text{then} \quad \gamma_{1G} & \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S) \\ & \geq \frac{m-1}{m}(mr-1)|T| + \frac{1}{m}(mr-|T|) = (m-1)r|T| + r - |T| \\ & \geq (m-1)r + |T| + r - |T| \geq \alpha_s + \beta_T \end{aligned}$$

$$\text{(ii)} \quad 2 \leq |S| < \frac{1}{2}mr$$

$$\text{If } 2 \leq |T| < \frac{1}{2}mr, \quad \text{then} \quad \gamma_{1G} \geq \frac{r}{m}|S| + \frac{r}{m}|T| + \frac{m-1}{m}d_{G-S}(T) + \frac{1}{m}d_{G-T}(S)$$

$$> \frac{m-1}{m}(mr-|S|)|T| + \frac{1}{m}(mr-|T|)|S|$$

$$\begin{aligned}
&> \frac{m-1}{m} \frac{1}{2} mr + \frac{1}{m} \frac{1}{2} mr = (m-1)r + r \geq \alpha_s + \beta_T \\
\text{If } |T| \geq \frac{1}{2} mr \geq 2, & \text{ then } \gamma_{1G} \geq \frac{r}{m} |S| + \frac{r}{m} |T| + \frac{m-1}{m} d_{G-S}(T) + \frac{1}{m} d_{G-T}(S) \\
&> \frac{r}{m} |T| + \frac{m-1}{m} (mr - |S|) |T| > \frac{r}{m} \frac{1}{2} mr + \frac{m-1}{m} \frac{1}{2} mr \\
&\geq r + (m-1)r \geq \alpha_s + \beta_T
\end{aligned}$$

$$(iii) \quad |S| \geq \frac{1}{2} mr$$

$$\begin{aligned}
\text{If } |T| \geq m-1, & \text{ then } \gamma_{1G} \geq \frac{r}{m} |S| + \frac{r}{m} |T| + \frac{m-1}{m} d_{G-S}(T) + \frac{1}{m} d_{G-T}(S) \\
&\geq \frac{r}{m} \frac{1}{2} mr + \frac{r}{m} (m-1) + \frac{m-1}{m} \beta_T \\
&\geq r + \frac{1}{m} \beta_r + \frac{m-1}{m} \beta_r \geq \alpha_s + \beta_r
\end{aligned}$$

$$\begin{aligned}
\text{If } |T| \leq m-2, & \text{ then } \gamma_{1G} \geq \frac{r}{m} |S| + \frac{r}{m} |T| + \frac{m-1}{m} d_{G-S}(T) + \frac{1}{m} d_{G-T}(S) \\
&> \frac{r}{m} \frac{1}{2} mr + \frac{m-1}{m} \beta_r + \frac{1}{m} (mr - |T|) |S| \\
&\geq r + \frac{m-1}{m} \beta_r + \frac{1}{m} (mr - m + 2) \frac{1}{2} mr \\
&\geq r + \frac{m-1}{m} \beta_r + \frac{1}{m} mr \geq r + \frac{m-1}{m} \beta_r + \frac{1}{m} \beta_r \\
&\geq \alpha_s + \beta_r
\end{aligned}$$

Now we complete the proof of theorem 2.

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Plastic Surgery and Postoperative Survival of Cutaneous Squamous Cell Carcinoma

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Abstract: Objective: In order to study the effect and effect of orthopedic surgery on patients with cutaneous squamous cell carcinoma (CSCC). **Methods:** There are 72 cases of CSCC were admitted to our hospital from September 2016 to April 2019, all patients underwent plastic surgery, and the results were compared. **Results:** The results showed that all patients were treated for 3 years after treatment. The overall survival rate was 69 (95.83%), which was higher than the 2-year overall survival rate of 58 cases (80.56%), and the 1-year overall survival rate was 43 cases (59.72%). The comparison was very significant ($P < 0.05$). **Conclusion:** The authors conclude that after using plastic surgery for CSCC patients can maximize the 3-year overall survival rate, which can be promoted.

Key words: plastic surgery, cutaneous squamous cell carcinoma, effect, survival period, influencing factors

Introduction

In the clinic, CSCC refers to a very common type of non-melanoma cutaneous malignant tumor, which is more likely to be produced in various exposed positions such as the head, face and other exposed positions. At this stage, some researchers pointed out that CSCC is caused by long-term exposure to ultraviolet radiation, various types of radiation damage, etc., and there are many treatment methods, such as surgery, drugs, radiation, etc., and surgery is very clinical use. The general treatment method can determine the total extent of resection and the repair method according to the extent of the lesion, the total depth of invasion, the location of the lesion, and the pathological type. However, after the surgery, the

patient's overall survival rate became a focus of clinical attention. The article included 72 patients admitted to our hospital from September 2016 to April 2019, and further studied the value of plastic surgery in the treatment of this disease. The actual situation is as follows:

1. Objects and methods

1.1 General information

There are 72 cases of CSCC were admitted to our hospital from September 2016 to April 2019, all patients underwent plastic surgery. Inclusion criteria: (1) All patients were diagnosed by combined diagnosis such as clinical symptom observation; (2) All patients and (or) their families gave informed consent to the study; (3) All patients' case data were obtained from

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our hospital. Approval of the ethics committee; (4) All patients have normal consciousness. Exclusion criteria: (1) Excluding patients with severe mental illness and infectious diseases; (2) Excluding patients with severe heart disease, liver disease, kidney disease, brain disease, and lung disease; (3) Elimination Patients who are allergic to this treatment; (4) exclude patients who have withdrawn from the study midway; (5) exclude patients with severe blood disease; (6) exclude female patients who are still in lactation and pregnancy. Gender: 51 males and 21 females; age range: 33-92 years, average (62.55±12.76) years old.

Male overall survival (83.91±0.28) months compared with female (84.55±1.99) months, there was no significant difference ($P>0.05$); age was higher than 50 years old (77.88±1.45) months lower than The age was lower than 50 years (95.13±2.22) months, and the comparison was very significant ($P<0.05$); the total survival time at the exposure site (95.71±3.33) months versus the non-exposure position (87.22±1.93) months. There was no significant difference ($P>0.05$); the maximum lesion diameter was less than 5cm and the total survival time was (95.62±3.71) months. The maximum lesion diameter was higher than 5cm (79.15±2.88) months. The comparison was very significant. The difference was ($P<0.05$); the total survival of the superficial dermis (105.71±3.62) months was higher than that of the superficial skin (85.33±1.73) months and the rest of the tissues (69.26±0.88) months. The difference was ($P < 0.05$).

1.2 Methods

1.2.1 Preparation before surgery

After hospitalization, all kinds of tests were carried out, including B-mode ultrasound, chest X-ray, etc. The patients with distant metastasis and severe heart disease, liver and kidney disease, brain disease and lung disease were excluded. All patients had not received radiotherapy or chemotherapy before the operation, and all patients and(or) their family members had informed consent to the study.

1.2.2 Surgery

With the enlargement of the resection, the total extent of resection mainly includes normal tissues with more than 2.0 cm of the edge of the lesion. The total

extent of resection of the basal position mainly includes the next layer of each affected level. Before the operation, the suspected production was detected. Patients with regional lymph node metastasis undergo lymph node biopsy and perform regional lymph node dissection. The patient is given local anesthesia or general anesthesia. For CSCC patients, the normal tissues of 2.0-5.0 cm of the outer edge of the lesion are marked, and the lesions are removed by the marking line. The next layer of the affected level marks all the excised tissue and sends it to the pathological examination. After the margin and its base position are negative, the incision is closed and the wound is repaired. For patients with various pathological data that are not sound enough, the tissues are excised at the edge of the lesion and sent to the pathological examination. If it is confirmed to be CSCC, a total of 2.0-5.0 cm is performed outside the margin to expand the resection until the margin is The base position is negative.

1.2.3 Repair methods for each wound

(1) Direct suture: For patients with small lesions, good differentiation, and more peripheral tissues, after the end of the enlarged resection, the surrounding tissues are freely detached in all directions, and the tension can be directly sutured.

(2) Free skin graft surgery: For patients with periosteum and tendon that have not been exposed to the wound after the end of the extended resection, a full-thickness or medium-thickness skin graft is used for free skin graft surgery. After that, the package is packaged and fixed.

(3) Local flap formation surgery: Localized flap formation surgery is used for patients with lesions surrounding the lesions that can be directly covered by the rotation and propulsion flaps and have a very full flap.

(4) Pedicled rotating flap and donor skin grafting surgery: the tendon and bone are leaked after the end of resection of each diseased tissue. In patients who cannot be sutured after resection of the wound, pedicle rotation should be carried out. The skin flap and the flap for skin grafting are designed to rotate the flap adjacent to the wound to cover the wound surface, thus

ensuring a sufficient blood supply in the flap. If the defect is too large, several flaps should be used. Each secondary wound in the valved area was covered with a free skin graft.

1.3 Observation indicators

The one-year overall survival, 2-year overall survival, and 3-year overall survival were evaluated in all patients after treatment.

1.4 Data analysis and statistical processing

All data involved in this study were treated with SPSS19.0 statistical software. Among them, the 1-year overall survival rate, 2-year overall survival rate, and 3-year overall survival rate after treatment were all used [example (%)] indicates that the χ^2 test is selected, and $P < 0.05$ is statistically significant, otherwise it is meaningless.

2. Results

directions, reduce recurrence, and delay the overall survival. Usually the total extent of resection is greater than 2 cm of the edge of the tumor, and pathological examination is used to determine whether the margin of resection and its residual tumor remains. In addition, lymph node biopsy should be performed in patients suspected of having regional lymph node metastasis, and lymph node dissection should be performed in patients who are positive.

It is very important to repair the secondary wound after the end of skin tumor resection. In the clinical practice of resection of CSCC, the most common wound repair methods include free skin grafting, direct suturing, etc. For patients with a small overall range of lesions and more relaxed surrounding tissues, direct suturing should be used. For the position of the head, face, etc., which needs more attention to aesthetics, local flap repair should be used as much as possible. For patients with a wide range of lesions and a very rich basal tissue, free skin graft surgery should be used. If the wound exposes a critical tissue after the resection, it should be repaired with a pedicle flap or a free flap. The selection of repair methods should follow the principles of less trauma, more beautiful appearance, and easier operation.

In the results of this study showed that the 3-year overall survival rate of all patients after treatment was

After treatment, the 3-year overall survival rate of 69 patients (95.83%) was higher than that of 58 patients (80.56%) and 43 patients (59.72%) with significant difference ($P < 0.05$).

3. Discussion

In recent years, the total prevalence of CSCC has gradually increased, which is caused by long-term exposure to ultraviolet light, genetic mutations, human papillomavirus infection and other factors. Most of the CSCCs are exposed in the body, and they are more likely to be infected concurrently, which has an excessive impact on the patient's daily life. At this stage, most of the patients in the clinic use surgery to treat CSCC patients, to remove all tumors in all

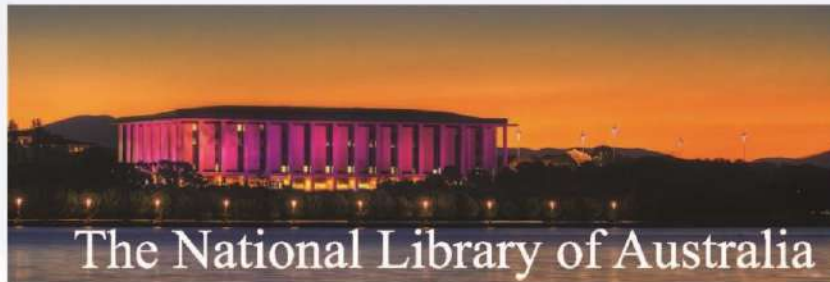
69 (95.83%), which was higher than the 2-year overall survival rate of 58 cases (80.56%) and the 1-year overall survival rate of 43 cases (59.72%) with significant difference ($P < 0.05$).

To sum up, after using plastic surgery for CSCC patients can maximize the 3-year overall survival rate, which can be promoted.

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