

Research on the Influence, Service and Ideological Guidance Function of WeChat Official Accounts of Higher Vocational Colleges

Empirical Analysis Based on WeChat Official Accounts of 35 Demonstrative Higher Vocational Colleges in China*

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Abstract—With WeChat official accounts of 35 model higher vocational colleges of China as the object, this research selected 7,883 tweets of the full sample posted from January 1 to December 31, 2018 for analysis, and based on quantitative analysis, did statistics of the times of tweeting, total number of tweets, total pageviews, total likes (thumbs up), overall communication, average communication, peak communication and WCI to rank the communication power, analyze the monthly average number of tweets, summarize the menu design, analyze the service and ideological guidance function of these WeChat official accounts as well as relevant issues. In addition, this paper puts forwards countermeasures for operation optimization.

Keywords—higher vocational colleges; WeChat official accounts; WCI; Ideological guidance

I. INTRODUCTION

WeChat Official Account is a new media tool for information distribution launched by Tencent in 2012, also known as WeChat public platform. Among many new media platforms, WeChat Official Account is easy to operate relatively with higher openness, and as a We-Media, it allows posting of multiple pictures, texts, videos and audios, without limitation on capacity, as well as design of menu and mini programs to realize powerful service and office functions. [1] Therefore, compared with Microblog and other traditional we-media, WeChat Official Account has more powerful functions. In addition, WeChat Official Account carries out information

distribution with the help of the WeChat ecology. By the first half of 2018, the number of combined monthly active accounts of WeChat had reached 1.058 billion. [2] The combination of multiple factors has made the WeChat Official Account the most popular new media tool at present. In the context of the strong rise of new media and the integrated development of multimedia, China's higher vocational colleges follow the trend, and actively use WeChat official accounts for publicity, service, ideological guidance and other work. To understand the influence, service and ideological guidance function of WeChat official accounts of higher vocational colleges in China and put forward optimization strategies, this research selected 35 model higher vocational colleges of China and analyzes their tweet data in 2018.

II. RESEARCH OBJECT AND METHOD

Model higher vocational colleges are the first echelon of higher vocational colleges of China, which represent the highest level of higher vocational education of China. Therefore, this research selected 35 model higher vocational colleges from the seven major regions including the northeast China, north China, northwest China, southwest China, central China, south China and east China, according to the proportion of local model higher vocational colleges through systematic random sampling and choose their WeChat official accounts and tweets as the research object. The tweets selected are the full sample data of the above official accounts from January 1, 2018 to December 31, 2018.

Based on the analysis of the above data, this research did statistics of the times of tweeting (D), total number of tweets (N), total pageviews (R), total likes (thumbs up) (Z), overall communication (O), average communication (A), peak communication (P) and WCI to rank the communication power, analyze the monthly average number of tweets, summarize the menu design, analyze the service and ideological guidance function of these WeChat official accounts.

By reference to the WCI statistical formula provided by GSDATA, [3] and the characteristics of WeChat official

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accounts of higher vocational colleges, the research put forward a WCI calculation formula, which is the scalar value derived from the original data through the calculation formula, and a comprehensive index considering the data of each dimension. First, the research evaluated the WeChat official accounts from six indexes including total pageviews (R), average pageviews (R/N), maximum pageviews (Rmax), total likes (Z), average likes (Z/N) and maximum likes (Zmax);

$$WCI = \{0.35 * [0.85 * \ln(R/d+1) + 0.15 * \ln(10 * Z/d+1)] + 0.35 * [0.85 * \ln(R/n+1) + 0.15 * \ln(10 * Z/n+1)] + 0.3 * [0.85 * \ln(R_{max}+1) + 0.15 * \ln(10 * Z_{max}+1)]\}^{2*10}$$

III. BASIC INFORMATION OF WECHAT OFFICIAL ACCOUNTS OF HIGHER VOCATIONAL COLLEGES AND THEIR TWEETS

Among the 35 official accounts included in this research, 32 of them are verified, and 2 are not verified; the 35 official accounts posted 7883 tweets in total from January 1, 2018 to December 31, 2018, including 2374 original tweets, accounting for 30.12%; the average number of tweets per

second, standardized the indexes in logarithmic form to realize comparison and numeration between indexes of different dimensions; last, considering the diversity of the indexes in reflecting communication power, give each index a unique weight. The WCI in this research introduces three secondary indexes - overall communication (O), average communication (A), peak communication (P), with weight of 35%, 35% and 30%, respectively. The formula is shown as follows:

account is 225.23, the total number of times of tweeting is 5668, with average times of tweeting per account is 161.9.

Influenced by holidays and teaching activities in the academic year, the number of tweets of official accounts of the higher vocational colleges has obvious seasonal characteristics, with the peak time in May and September each year, and the minimum number of tweets in February and August. The monthly distribution of information push is shown in "Fig. 1".

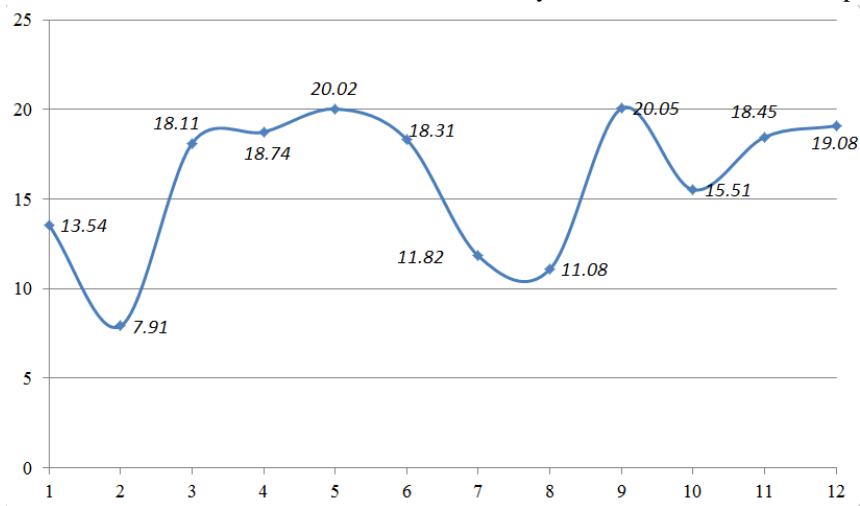


Fig. 1. Monthly distribution of information push by WeChat official accounts of higher vocational colleges.

IV. ANALYSIS OF THE OVERALL INFLUENCE OF WECHAT OFFICIAL ACCOUNTS OF HIGHER VOCATIONAL COLLEGES

The total pageviews of the 35 official accounts was 11496253, with the average per account of 328464, and the average per tweet of 1458.36; the total likes (thumbs up) of the 35 official accounts as 847289, with the average per account of 24208.26, and the average per tweet of 107.48; the official account of Tianjin Vocational Institute had both the maximum number of tweets and the maximum number of times of tweeting, which were 843 and 357, respectively, in the whole year; the official account of Zibo Vocational Institute had both the highest pageviews and likes, which were 1204094 and 514816, respectively; the official account of Xinjiang Agricultural Vocational Technical College had the maximum average pageviews per tweet, which was 11410.49; the official account of Zibo Vocational Institute had the maximum average likes (thumbs up) per tweet, which was 2600.08; the official account of Changsha Social Work College had the maximum daily average pageviews, which was 14679.60; Zibo Vocational Institute had the maximum daily average likes (thumbs up), which was 2613.28.

In this research, WCI is the core quantitative index to evaluate the influence of all official accounts. Through the WCI value, this research accurately estimated the overall influence of the official accounts of the colleges involved. According to statistics, Xinjiang Agricultural Vocational Technical College, Changsha Social Work College, Zibo Vocational Institute, Shenzhen Polytechnic and Hunan Railway Professional Technology College ranked in the top 5 in terms of the overall influence. The WCI calculation in this research introduces three secondary indexes - overall communication (O), average communication (A), peak communication (P), and from the three indexes, the overall communication is an index of time equilibrium. Based on the average daily communication, Changsha Social Work College and Xinjiang Agricultural Vocational Technical College ranked in the top 2 in terms of overall communication; the average communication per tweet is the inter-tweet equilibrium index, and if calculated mainly based on the influence per tweet, Xinjiang Agricultural Vocational Technical College and Zibo Vocational Institute ranked in the top 2 in terms of the communication power; the peak communication mainly evaluates the extreme influence of the

official account, that is, the maximum influence reached, which mainly investigates the highest influence of tweets. The top 2 colleges in terms peak communication are Changsha

Social Work College and Shenzhen Polytechnic. The top 20 official accounts in terms of WCI are shown in "Table I".

TABLE I. THE TOP 20 MOST INFLUENTIAL OFFICIAL ACCOUNTS OF CHINA'S HIGHER VOCATIONAL COLLEGES (2018.1.1-12.31)

WeChat Official Account	WeChat ID	Times of Tweeting D	Number of Tweets N	Total Pageviews R	Total Likes Z	Overall Communication, O	Average Communication, A	Peak Communication, P	WCI
Xinjiang Agricultural Vocational Technical College	xjnyzyjsxywx	59	61	696040	103310	12,655	12240	30705.55	321309456.4
Changsha Social Work College	csmzxy_sisi	48	158	704621	25544	13,277	4034.2	35447.05	278656277.8
Zibo Vocational Institute	zbvcnws	197	198	1204094	514816	9,116	9070.2	30854.85	244038009
Shenzhen Polytechnic	SZPT1993	44	172	493371	8165	9,810	2510.4	35428.05	223223948.6
Hunan Railway Professional Technology College	hnrpc12302	231	188	744283	16127	2,844	3494.8	31946.75	139304844.4
Guangzhou Panyu Polytechnic	panzhizhaosheng	40	81	362952	5425	7,917	3910.2	18567.4	94280315.21
Hainan College of Vocation and Technique	hcvt2000	101	119	167804	2489	1,450	1231	21186.45	53207365.58
Nanning College for Vocational Technology	ncvtwx	238	304	1018406	19498	3,761	2944.7	14052.65	43070556.46
Tianjin Vocational Institute	tjtc1978	357	843	446919	9589	473	468.69	19641.8	41518257.86
Zhejiang Financial College	zfczjrzxy	228	257	422339	8325	1,630	1446.4	17716.9	40856620.82
Chongqing Industry Polytechnic College	cg985_1956	37	67	122076	2483	2,906	1605.3	14863.95	36459666.11
Qingdao Technical College	qtc1951	189	222	341933	8243	1,604	1365.9	15287.2	31648497.1
Yangling Vocational & Technical College	zyxmt	150	178	457285	14894	2,741	2310.2	11748.8	28011922.05
Lanzhou Petrochemical Polytechnic	lzpcc1956	121	112	7993	1434	75	80.867	17379.85	27756906.72
Kunming Metallurgy College	kmyz_1952	41	59	162539	4135	3,522	2447.8	10231.9	26615216.51
Chengdu Aeronautic Polytechnic	capedu	314	438	198730	4376	560	401.65	16035.6	26493781.92
Wuhan Polytechnic	whpt2015	197	236	694820	23942	3,181	2655.7	8346.95	20675391.05
Heilongjiang College of Construction	gh_b9ad63999b24	10	10	34530	587	3,024	3024.1	5777.55	14823539.52
Beijing College of Finance and Commerce	bjcy1958	111	118	302589	3954	2,372	2230.9	7174.7	14162273.54
Ningbo Polytechnic	nbpt2013	226	261	471614	8756	1,833	1587.2	8437.6	13900369.32

V. SERVICE FUNCTION ANALYSIS OF OFFICIAL ACCOUNTS OF HIGHER VOCATIONAL COLLEGES

As a powerful information distribution and service tool, official accounts of higher vocational colleges can provide relatively rich service functions. The service mentioned here can be divided into services in broad sense and narrow sense. The service in broad sense includes information push, interactive consultation, namely information service; the service in narrow sense refers to campus life service, etc. The service function of the official accounts of higher vocational colleges are mainly provided in the form of providing information, inquiry and interaction, which is realized through primary and secondary menus set through the official accounts. In general, each WeChat official account can have up to 3 user-defined primary menus, each primary menu can have up to 5 user-defined secondary menus. That is, each official account can have up to 15 user-defined secondary menus. According to the statistical results of this research, among the 35 official accounts of the 35 model higher vocational colleges included, 34 of them set up menus, among which 31 official accounts set up 3 primary menus, 3 official accounts set up 2 menus. 1 official account did not set up menus.

The contents of the menus of the official accounts reflect their service functions and positioning. This research also statistically analyzed the types of the menus of the official accounts. The results showed that the menus set are mostly information consulting type, which are set up by 30 official accounts, accounting for 85.71%, and mainly provide the latest news, campus news and other information services; the second most is service menus, which are set up by 29 official accounts, mainly providing campus navigation, online assistant, micro services, micro communities, network services, related inquiries, psychological tests, etc.; in addition, 14 official accounts set up the menu of school introduction, mainly providing school information in the form of school profile, micro homepage, "Welcome to Our School", etc.; consulting interaction menu is also a relatively mainstream menu design, mainly to achieve information consulting, interactive communication and other functions; moreover, some official accounts also set up enrollment, recruitment and other practical functions, as well as learning column, micro-culture and other topic menu design, and some also provide historical information inquiry. See "Table II" for details of menu setting.

TABLE II. MENU SETTING OF WECHAT OFFICIAL ACCOUNTS OF HIGHER VOCATIONAL COLLEGES

Menu Type	Information	Service	School Introduction	Consulting and Interaction	Enrollment	Learning Column	Recruitment	Micro culture	Historical Information
Number of colleges	30	29	14	12	4	4	2	2	2
Percentage (%)	85.71	82.86	40.00	34.29	11.43	11.43	5.71	5.71	5.71

VI. ANALYSIS OF IDEOLOGICAL GUIDANCE FUNCTION OF OFFICIAL ACCOUNTS OF HIGHER VOCATIONAL COLLEGES

In fact, the WeChat official accounts of colleges have become the most important online media tool at the college level. The information arrival rate, communication degree and influence of these official accounts have surpassed the traditional campus newspaper, and even surpassed the school radio station, television station and other audio media. As a result, they are unique in many new media and gradually leading. As an influential official media tool in colleges, the WeChat official accounts also play an important role in guiding correct public opinions and ideology of teachers and students. Through analysis of the tweets of 35 official accounts included in this research, the official accounts proved to play a good role in ideological guidance and public opinion guidance as a kind of strong campus media.

A. Prominent Public Opinion Guidance Function of Highly Influential Tweets

There were numerous highly influential tweets among 7883 tweets produced by the 35 official accounts produced during the year, which can be called "hot tweets". Generally, such tweets are articles generated by these official accounts that obtained high pageviews and many likes (thumbs up) and had great contribution to the maxima of these accounts. These articles of all tweets played the maximum function of public

opinion guidance. Among all tweets included in this research, the article 2018 Independent Enrollment Plan of Changsha Social Work College in Hunan Province posted by the WeChat official account of Changsha Social Work College achieved the pageviews of 41613 times, followed by 25 Years Old - Shenzhen Polytechnic, We Advance with The Times! posted by the official account of Shenzhen Polytechnic, with pageviews of 41465 times; the article Wonderful Review |Our Festival · Poetry Party at Dragon Boat Festival posted by the official account of Zibo Vocational Institute obtained the most likes (thumbs up)- 7563 likes. These tweets are quality tweets with high communication, and based on analysis, such tweets have the following characteristics: first, they are practical tweets with high practical reading value, such as enrollment guide and announcements; second, high quality original articles of theme planning, which are rich in true feelings and easy to get close to the mind of the audience, such as reminiscence articles under the theme of school anniversary; third, tweets about voting, which can raise great attentions in general if the voting is about typical figures, groups and affairs around the students. The above three types of tweets from the official accounts represent the general characteristics of highly influential tweets, which have the strongest public opinion guidance function.

B. Relevant Mainstream Ideology Learning and Publicity Column Is an Important Carrier of the Ideological Guidance Function

For example, the column - Ping Words — Allusions Cited by General Secretary Xi Jinping" set up by the official account of Liaoning Provincial College of Communications launched 12 issues in total, systematically providing classic allusions cited by General Secretary Xi Jinping, which is of great significance in leading all teachers, students and alumni to learn the Xi Jinping thought and the fine traditional culture of the Chinese nation. For another example, Shanxi Finance & Taxation College released the full-length television documentary titled "We are all in this together — greeting the 40th anniversary of reform and opening up" through the official account, systematically introducing the glorious course of China's reform and opening up for 40 years, and guiding all the teachers and students to pay tribute to the reform and opening up. In addition, the official account of Ningbo Polytechnic launched a "hot topic" column, leading teachers and students to learn the speeches of General Secretary Xi Jinping, which had a profound influence. The online micro-Party course launched by Xinjiang Agricultural Vocational Technical College also has a great influence. The column "Records" launched by Guizhou Communication Vocational College, based on the main contents of reviewing the history, tracing the revolution years, also gives full play to the function of ideological guidance.

C. Culture Column Is an Effective Means to Promote Traditional Culture in Higher Vocational Colleges

The column "Studies of Chinese ancient civilization" launched by the official account of Hunan Railway Professional Technology College, and the column "Reading" launched by the official account of Xinjiang Agricultural Vocational Technical College introduces positive cultural reading materials, having profound influence. Changsha Social Work College launched the column of traditional festivals, which, through the alternative interpretation of Chinese traditional festivals, carries the feelings of Chinese people and obtains the affective identification of teachers and students. Inner Mongolia Technical College of Construction set up the column "Literary World" narrates classics and expresses feelings in the form of literary, and carried forward youth energy with serious types of literature. Qingdao Technical College set up the column "Listening and Reading" which releases a large number of classic works regularly to lead the campus culture with excellent traditional literature. At present, there are various forms of cultural education in higher vocational colleges, and the cultural promotion based on new media is a good way marked by high acceptance by college students and high communication power. Setting up similar columns through the official accounts is one of the effective means for higher vocational colleges to carry forward traditional culture.

D. "Craftsman Spirit" and Other Columns Form an Ideological Guidance Mode with the Characteristics of Higher Vocational Colleges

Compared with ordinary colleges and universities, higher vocational colleges should have their own unique campus culture and characteristics, which should be based on the basic positioning of cultivating knowledge and skill-based innovative work force. The columns opened by the official accounts of higher vocational colleges in line with the characteristics and positioning of higher vocational colleges form an ideological guidance mode with the characteristics of higher vocational colleges. For example, the column "Best Craftsman" launched by Qingdao Technical College propagandize and popularize outstanding skill-based teachers to encourage students and teachers to keep improving their skills and love their jobs, which has won good response. The official account of Shenzhen Polytechnic launched the column "Hearts and Crafts" to publicize the most influential and representative teachers of each school, which obtained high pageviews and created a strong atmosphere of advocating craftsman spirit in the whole campus. In addition, to meet the needs of professional cultural education in higher vocational colleges, many official accounts have launched special columns featuring professional culture promotion, such as the "Culture Series" launched by Shanxi Finance & Taxation College, which is dedicated to promoting and publicizing accounting culture and other professional culture.

VII. CONCLUSION

Although China's higher vocational colleges, represented by model schools, have achieved remarkable results in information distribution, service and ideological guidance through WeChat official accounts, it is undeniable that there are some problems in content production, technology and culture, which are worthy of reflection, improvement and promotion. In terms of content production, high-quality original tweets are relatively small, and most of the tweets are reprinted or copied ones from other relevant documents and reports without effective conversion to new media language; at the technology level, most official accounts are ordinary subscription accounts, and the menu design and content link of the official accounts are relatively elementary, which remain to be enriched in terms of functions; at the cultural level, most content producers and reviewers are teachers, whose cultural background and content acceptance habits are significantly different from the audiences that mostly are post-1995 students. This difference is called "cultural lag" [4] by scholars in the field of new media, mainly including the generation gaps in cultural concept, psychological trait, acceptance habit between the producers and the receivers of new media information that mostly are post-1995 students. Compared with the official accounts of the Communist Youth League and official accounts of civic groups, the WeChat official accounts of higher vocational colleges are relatively dull, serious and dignified, and lack vitality.

Therefore, the higher vocational colleges can optimize their official accounts from the following aspects: first, carrying out language transformation to promote the coupling of value and emotion, and attaching importance to and adapting to the

"ACGN" culture [5]; second, realize endogenous construction and establish the double-subject discourse mode; third, grasp the Internet thinking and carry out data marketing; four, integrate education into service and promote the multi-channel integration and interaction; five, optimize the construction of the operation team and absorb students into the content production team. [6] In short, as a relatively common communication channel, WeChat official account is an effective means in the future to spread the theme, carry forward positive energy and give out voice of higher vocational colleges, which has great value in ideological guidance and campus services. The ideology and culture propaganda departments of higher vocational colleges should attach great importance to the official accounts to facilitate them to play their functions and help higher vocational colleges cultivate talents. [7]

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