



취업 진로 역량강화를 위한 앱 콘텐츠 설계 방향 : 대학생의 취업의식과 취업준비행동 및 취업 지원 앱 만족도 분석을 중심으로

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Directions of App Content Design for Enhancing Career Design Competency: Focusing on the Analysis of Employment Consciousness, Employment Preparation Behavior and Satisfaction of Employment Support App.

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[요 약]

취업진로 준비를 위한 앱 콘텐츠는 대학생들의 취업정보의 통로를 다변화시키고, 대학생들이 늘 소지하고 다니는 핸드폰을 통하여 취업정보에의 접근성을 높일 수 있다는 점에서 의의가 있다. 본 연구는 취업진로 역량강화를 위한 현실적이고 구체적인 앱 콘텐츠 설계의 방향을 제시하기 위하여 대학생들의 취업에 대한 의식과 취업준비행동을 분석하고 취업지원 앱의 사용율과 만족도를 분석하였다. 연구결과를 토대로 취업진로 앱 콘텐츠 설계방향을 시뮬레이션 앱 콘텐츠, 동기유발 및 소통 앱 콘텐츠, 상담과 컨설팅 지원 앱 콘텐츠, 객관적 진단과 종합적 탐색 앱 콘텐츠 등으로 제안하였다.

[Abstract]

App content is significant in that it can diversify the channels of employment information and improve access to employment information through mobile phones. This study analyzed university students' perception of employment consciousness, employment preparation behavior, and usage and satisfaction of employment support app with the aim of suggesting directions and tasks for realistic and concrete app content design for strengthening career design competency. We suggested simulation app content, motivation and communication app content, counseling and consulting support app content, objective diagnosis and comprehensive searching app content.

색인어 : 대학생, 취업의식, 취업준비행동, 취업 앱 만족도, 취업진로 앱 콘텐츠

Key word : University student, Employment consciousness, Employment preparation behavior, Satisfaction of employment support app, Employment career app content

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I . Introduction

University students need to develop their career design competency because they enter the real work world after graduation. The accelerating flexibility of the labor market has been a factor in increasing the unemployment rate of young people[1][2]. Self-directed career exploration and job preparation activities are becoming essential for more job seekers. Effectively finding suitable jobs for them necessitates conducting an analysis of the internal career that objectively explores their strengths and weaknesses, an understanding of the external career world, an investigation of their external career and the identification and development of career design competencies. Moreover, as the future job environment is characterized by volatility, uncertainty, and complexity, and as talent capability factors are required in the era of the fourth industrial revolution[3][4][5], self-directed career exploration and job preparation are very important.

It is reported that the employment rate of regional universities is diverging further from that of universities in the metropolitan area, thereby widening inequality. As the employment problems of university graduates become more serious, private education for employment is increasing rapidly. According to the survey data on the experience of private education[6][7], 40% of university students are participating in private education for employment, and the annual private education cost is over 2 million won. This phenomenon is a consequence of the high level of anxiety and the need for diligent preparation for employment in accordance with the unemployment problem. As of December 2016, the employment rate for university graduates in Korea is 64.3%; 66.2% for universities in the metropolitan area and 63.2% for non-metropolitan universities[8].

The obstacles to employment of university graduates are included lack of understanding of suitable jobs, excessive preference for jobs in public offices and large corporations, and mismatch between companies and job seekers due to lack of information on jobs[9][10][11]. According to the analysis of the employment education status of universities, each university has an educational program focusing on career development and career choice for students, centering on the job search process. Typical job training programs include job training camps, job fairs, on-campus employment lectures, semester-based job classes, and employment clubs[12]. Job support centers in universities operate mainly in recruiting and employment, so it is necessary to supplement the career development process. Further problems included lack of professional manpower, deviation from school level, and low utilization rate of students[13].

Current university students have a high level of web

accessibility and usability. They need content that allows them to access web sites and mobile apps as needed to search for their career paths or to prepare for employment. It is urgent to develop contents supporting simulation and preparation for employment. The following are the representative sources of support for employment and career development. WorkNet(www.work.go.kr) run by the Ministry of Employment and Labor and Korea Employment Information Service is representative. WorkNet's main contents are related to job search, job offer, career path, and employment policy. Next, there is CareerNet which is run by the Korea Vocational Training Institute. Major contents include career psychology examination, career counseling, occupational information, career videos, career education materials, and cyber counseling. In addition, there are cafes for employment, 'people who work hard(cafenaver.com/dokchi)', and 'spec up(cafenaver.com/specup)'. Main contents include sites using supporters, job seeking information, spec information, site links for job preparation such as language, personalities, self-introduction, and free space to enjoy.

Despite these various web sites that support career exploration and job preparation, only a handful of apps aim at career and employment support. Existing career path and job apps are designed primarily for college students from each university. There are very few career and employment app beyond the fences of each university, very few preceding studies on career and employment app[14][15], and no research on contents of career and employment support app. This establishes the need to study the design of app contents that support career exploration and employment preparation. App content is significant in that it can diversify the channels of employment information and improve access to employment information through mobile phones.

This study analyzed university students' perception of employment consciousness, employment preparation behavior, and usage and satisfaction of employment support app with the aim of suggesting directions and tasks for realistic and concrete app content design for strengthening career design competency.

II . Methodology of research

2-1. Research subjects

The subjects of this study were 10 universities in Busan in January, 2017. A questionnaire survey was conducted on 950 students attending these 10 universities in accordance with the study purpose. In order to prevent the sample from being biased to one side, the gender ratio is similar to that of the sample, and the grade is based on the upper grades because it is the research

related to the employment, and the major consists of all the major field.

A total of 891 responses were analyzed. The general characteristics of the respondents are as follows. Gender consisted of 52.0% male students and 48.0% female students. 20.7% were 1st or 2nd years and 75.3% were 3rd or 4th years. The major field analyzed that the humanities and social science 28.7%, engineering science 25.6%, business and commerce 16.2%, natural science 12.4%, arts and physical education 8.5%, teacher education, and medical health 3.8%.

2-2. Research tool and data analysis method

Research tools were created through the following steps focusing on consciousness of employment, preparation behavior for employment, and usage and satisfaction of employment support app. This study examined the questionnaire of the precedent study [16]-[24] on university students' consciousness of employment and preparation behavior. There are no precedent studies on employment support app. Focus group was formed to conduct interview survey for the development of research tools. The focus group consisted of 10 students who had participated in the employment program at K university. We selected six survey categories, focusing on their interests and satisfaction with the app. 15 questions were developed based on six structured areas including acquisition path of employment information, consciousness of employment and company, consciousness of employment education, participation experience in employment program, concerns and dissatisfaction of employment support app, and satisfaction of employment support app. The survey was completed the self-report method and all the questions were written and recorded on the four point scale.

Frequency analysis, U test (Mann-Whitney U test), one-way ANOVA, and Decision tree analysis were performed using SPSSWIN 23.0. Decision tree analysis used CHAID (CHi-squared Automatic Interaction Detection), Exhaustive CHAID, QUEST (Quick, Unbiased, Efficient, Statistical Tree) and CART (Classification & Regression Tree).

III. Research results and implication

3-1. Employment consciousness and employment preparation behavior

First, an analysis of the path that gets the most employment information revealed that the internet was the most frequently used by gender, grade, and major field. Next, students get employment information through schools and people. There was no difference between male and female. According to the grade

level, 35% of the lower grades use the internet as employment information sources, compared to 54% of the upper grades. In addition, the ratio of using school as a employment information source is 19% in the lower grades, but 17% in the upper grades. The ratio of using school as a employment information source was high among students in business&commerce and healthcare field. It was found that app is not a big part of getting employment information. App usage is about 8% for boys and girls. The percentage of students who use the app is the lowest among students in the teacher education field(3%) and the highest in the medical health field(17%).

The research results revealed that students use the internet most frequently as a way to get information about employment, but the utilization rate of the app is very low. It is necessary to diversify the channels of employment information and to develop related app so that students have access to employment information through their mobile phones.

Second, as a result of analyzing the most important factors in employment education, students perceived employment skill and job training are the most important factors. The next important thing is career development design and motivation & self-confidence training. According to the results of analysis by gender and grade, about 20% of those revealed responses, and there were some differences according to gender and grade. On the whole, the importance of motivation and self-confidence education is higher. Students in arts and physical education field are interested in career development education field(17%), while students in the medical health field are more interested in motivation and improving self-confidence(27%).

It was confirmed that students perceived career development, motivation, self- confidence, and job skills as important in employment education. It is expected that video content called "vision set-up to improve employment motivations" will be needed as educational program for them

Third, as a result of analyzing the most important factors in employment, students perceived aptitude, interest and salary are the most important factors. They also perceived company vision, welfare and job security as the selection criteria in employment. As a criteria for determining employment, students have a high tendency to regard the inner dimension, aptitude and interest as the most important. Next, they regard the external dimension, such as salary and welfare, as important criteria. The content of the app needs to be composed to support the process of exploring the above conditions that students put into top priority in employment.

Fourth, employment education participation revealed the highest participation rate in special lecture and job fair. It seems to be a factor of popularity that the actual information about the

employment and the contact with the person. The types of employment programs that had a high participation rate were the following: male students took part in employment class and female students took part in career counseling. According to the grade level, participation rate of special lecture and job fair and career and employment counseling revealed about 24% in the lower grades, while more than 40% in the upper grades. In the case of career and employment counseling, participation rate of the upper grades was 35.2%. The rate of respondents who did not participate in the on-campus employment program was 28.3% in the lower grades and about 10% in the upper grades. Participation rate of employment class with the most systematic and continuous characteristic was 30%. There was no significant difference gender and grade, but there were significant differences among major field. Participation rate of students in the teacher education field were 2%, while students in the business and commerce field were 45%. Therefore, it is necessary to apply the contents of the app to the employment class. It is expected that students who have not take the employment class will be able to function as an easy access path to content that is sustainable and systematic rather than participating in short-term employment training programs.

3-2. Employment app experience and interest

As a result of analyzing the experience and interest of the employment app, more than half of students have not used the employment app. The difference between male and female students is not large, and the difference between grades is 31% in the lower grades and 43% in the upper grades which revealed an increase of more than 10 percent. Students who use the employment app are increasing their usage rate as students advance through school. There was a significant difference in the experience of using the employment app between the students in the teacher education field (9%) and the students in the humanities and social sciences(49%). Students in the teacher education field and arts and physical education tend to pursue employment that match their major, but the actual employment rate is not high. When developing an app, it is necessary to provide a way for the students who have a low usage rate of the existing app to use them for career exploration and employment preparation. The employment app that students use frequently were 'WorkNet', 'Job Korea', and 'Saramin'. By grade, the lower grades students use the 'WorkNet' the most, and the upper grades students are 'Saramin' the most popular. The results appear to be due to the fact that the 'WorkNet' app, which is a public institution, is full of career exploration contents and the 'Saramin' app, which is a private company site, is faithful in recruitment. When configuring app content, it is necessary to

develop content that is different from other app or sites. For example, it is to use group discussion videos with HRD managers of excellent companies. This will help to have a realistic and in-depth conversation between students and HRD managers. Students are most interested recruiting in employment app. Male students are interested in company information and female students are interested in career exploration content. Lower grades students are interested in career exploration content and upper grades students are more interested in company information. According to major field, students revealed the most interest in employment information, followed by career exploration and company information.

The lacking content in the app was the employment success case, the employment information, and the employment counseling corner. In this respect, it is necessary to consider loading of employment successful case when developing app contents. The employment success cases are planned as a corner in the participating space of app user. Compared to existing app that already have a considerable size, we need to explore useful channels and methods to find various success cases.

3-3. Satisfaction of employment app

The results of analysis of satisfaction with employment and career app are shown in Table 1. As a result of the satisfaction analysis of the employment app, satisfaction of 'career and job exploration' exceeded 60% overall, and the upper grades students revealed higher satisfaction than the lower grades. Satisfaction with 'company information' was over 60% overall and female students revealed higher satisfaction than male students. Satisfaction with 'recruitment information' was over 60% overall, and female students' satisfaction was higher. Satisfaction with employment skill was more than 50% and female students revealed higher satisfaction. Satisfaction with 'success case' exceeded 50%, and low grade students revealed high satisfaction. Satisfaction with 'personal history record management' between men and women is 60%. The usage rate of the app was about half, but the satisfaction of the app user was generally high. These results suggest that half of the students through subsequent investigation should explain why they do not use the app. It is necessary to devise ways to overcome the complaint about the employment app that the students feel when developing the contents, to overcome the low recognition of the employment app and to increase the utilization of the app.

Decision tree analysis was conducted to analyze the predictive factors affecting the satisfaction of employment app. The results of analyzing the factors affecting the satisfaction of employment app are shown in Figure 1.

Table 1. Employment Career app Satisfaction

Classification		highly unsatisfactory	unsatisfactory	satisfactory	highly satisfactory	Mean (4points)	Mean (100points)	Mann-Whitney U p-value
career and job exploration	male	10 (2.1)	117 (24.6)	295 (62.1)	53 (11.2)	2.82	70.58	0.144
	female	4 (1.0)	86 (21.3)	265 (65.6)	49 (12.1)	2.89	72.22	
	lower	6 (3.9)	31 (21.7%)	110 (72.4)	3 (2.0)	2.72	68.09	0.018
	upper	8 (1.1)	170 (23.4)	450 (62.0)	98 (13.5)	2.88	71.97	
company information	male	15 (3.2)	106 (22.5)	307 (65.0)	44 (9.3)	2.81	70.13	0.346
	female	3 (0.7)	92 (22.8%)	268 (66.3%)	41 (10.1)	2.86	71.47	
	lower	3 (2.0)	31 (20.5)	113 (74.8)	4 (2.6)	2.78	69.54	0.377
	upper	15 (2.1)	168 (23.2)	460 (63.6)	80 (11.1)	2.84	70.92	
recruitment information	male	5 (1.1)	122 (25.%)	301 (63.9)	43 (9.1)	2.81	70.28	0.028
	female	3 (0.7)	81 (20.1)	272 (67.7)	46 (11.4)	2.90	72.45	
	lower	3 (2.0)	35 (23.3)	103 (68.7)	9 (6.0)	2.79	69.67	0.227
	upper	5 (0.7)	169 (23.4)	468 (64.8)	80 (11.1)	2.86	71.57	
employment skill	male	27 (5.7)	176 (37.4)	241 (51.2)	27 (5.7)	2.57	64.23	0.176
	female	16 (4.0)	147 (36.5)	205 (50.9)	35 (8.7)	2.64	66.07	
	lower	7 (4.6)	49 (32.5)	90 (59.6)	5 (3.3)	2.62	65.40	0.555
	upper	36 (5.0)	275 (38.1)	354 (49.0)	57 (7.9)	2.60	64.96	
success case	male	28 (5.9)	173 (36.4)	246 (51.8)	28 (5.9)	2.58	64.42	0.930
	female	17 (4.2)	154 (38.3)	213 (53.0)	18 (4.5)	2.58	64.43	
	lower	2 (1.3)	44 (29.1)	100 (66.2)	5 (3.3)	2.72	67.88	0.003
	upper	43 (5.9)	283 (39.0)	358 (49.4)	41 (5.7)	2.55	63.69	
personal history record management	male	19 (3.9)	143 (29.3)	287 (58.8)	39 (8.0)	2.71	67.73	0.519
	female	6 (1.5)	125 (31.0)	235 (58.3)	37 (9.2)	2.75	68.80	
	lower	4 (2.6)	35 (23.2)	105 (69.5)	7 (4.6)	2.76	69.04	0.322
	upper	21 (2.8)	233 (31.5)	416 (56.3)	69 (9.3)	2.72	68.03	



Fig. 1. Decision Tree of CRT model

In order to examine the prediction accuracy according to the decision tree model, the classification ratio of CHAID model was 82.5%, that of exhaustive CHAID model was 82.6%, that of CRT model was 83.3%. The QUEST model was not classified. Therefore, the CRT model with the highest classification rate was selected. Satisfaction with the dependent variable (root node) (item 10-question 15) was defined as the low and high groups based on the average score of satisfaction score 2.74. The final variables presented in the CRT model are gender, grade, path for obtaining employment information, major criteria for employment, app interest content, app complaint, and company information. The maximum tree depth of this model is 5 and the separation criterion for the categorical target field (satisfaction) is .05 level through the Gini coefficient.

Predictive variables describing the satisfaction of the employment app are shown below the root node. The higher the value, the more the influence on the satisfaction of the employment app. The highest node was root node, 81.6% for 'high group' and 18.4% for 'low group'. The most influential variable for the separation was the acquisition path of employment information. In the question of the acquisition path of employment information, the number of people who selected 'internet, app' decreased to 76.3% compared to 81.6% at the root node, while the number of people who selected 'people, school, media' increased to 88.5%.

In the group that selected 'Internet, app' (node 1), 'interest content of the employment app' appeared as the second predictor variable. In the group that selected 'employment information, employment skill, company information, and personal history record management' (node 3), the high group increased to 77.4%. In the group that selected 'employment success case, career exploration, employment consultation corner', the high group decreased to 64.9%. In the group that selected 'people, school, media' (node 2), the interest of company information was the second predictor variable. In the group that selected 'salary, working conditions, company vision' (node 5), the high group increased to 91.5%, while the high group decreased to 78.0% in the group that selected 'welfare, organizational culture, desired talent'. 'The main criteria for employment' were the third predictor in nodes 3, 4, and 6. The group (node 7) who selected 'aptitude/interest, salary, job security, organizational culture, and working hours compliance' in the group (node 3) who selected 'employment information, employment skill, the high group increased to 79.6%. The group (node 8) who selected 'welfare, social status, company vision', the high group decreased to 71.0%. In the group (node 9) who selected 'welfare, social status, company vision, and company awareness' in the group (node 4) who selected 'employment success case, career exploration and

employment consultation corner', the high group increased to 81.8%. In the group (node 10) who selected 'aptitude/ interest, salary, job security, organizational culture, and working hours compliance', high group decreased to 58.2%. In the group (Node 11) who selected 'aptitude /interest, salary, job security, company vision, company awareness' in the group that selected 'welfare, organizational culture and desired talent' (node 6), the high group decreased to 51.7%. In the group (node 12) who selected 'welfare, social status, organizational culture, and working hours compliance', the high group increased to 89.4%. In the group that selected 'welfare, social status, company vision, company awareness' (node 8), interest of the company information was found predictor variable. In the group that selected 'salary, welfare, company vision, desired talent' (node 14), the high group increased to 78.4%. In the group that selected 'organizational culture, working condition', the low group increased to 62.7%. In the group that selected 'organizational culture, working conditions' (node 13), the main criteria of employment were found predictor variables again. In the group that selected 'social status' (node 19), the high group increased to 85.7%. In the group that selected 'welfare, company vision, company awareness' (node 20), the low group increased to 75.5%. In the group (node 10) who selected 'aptitude /interest, salary, job security, organizational culture, and working hours compliance', interest information of company was found predictor variable. In the group that selected 'working conditions' (node 15), the low group increased to 68.4%. In the group that selected 'salary, welfare, organizational culture, company vision and desired talent, (node 16), it was found that the high group was 63.7%. In the group that selected 'salary, welfare, organizational culture, company vision, desired talent' (node 16), the main criteria of employment was found predictor variable again. In the group that selected 'aptitude/interest, salary, organizational culture' (node 21), the high group increased to 68.4%. In the group that selected 'job security, working hours compliance' (node 22), it was found that the low group was 66.7%. In the group that selected 'aptitude/ interest, salary, job security, company vision, and company awareness' (node 11), complaint of employment app was found predictor variable. In the group that selected personal 'history management, career exploration, employment consultation corner' (node 17), it was found that the low group was 63.9%. In the group (node 18) who selected 'employment success case, company information, recruitment information, employment skills', it was found that the high group was 62.7%.

Decision tree analysis revealed that the variable with the greatest effect on satisfaction of employment app was acquisition path of employment information. The predictive variables influencing the satisfaction of the employment app were the

content of interest of employment app, main criteria for employment, interest of company information, and complaint of employment app. When developing an app, it is necessary to take a granular approach considering the various conditions that affect the satisfaction with the employment app.

IV. Conclusion and Suggestions

Based on the study results, we suggest a design direction of the employment career app content.

First, we suggest app content supporting simulation and preparation for career design competency. In order to increase the interest in the employment process, developing the contents of the simulated game format for the wage estimation, the current specification level, and the interview situation will help the process of preparing for employment. Supporting the career preparation process requires constructing content that can perform a step-by-step process from planning to implementation. This process provides specific support for the employment preparation process and provides a format for creating a customized plan. A self-directed, customized plan identifies the results of self-diagnosis at a glance and leads self-exploration to goal setting, completing the first step of career setting and employment preparation. This will also increase the direction and effectiveness of information search by setting a focus on search for employment and recruitment information. It is necessary to compose content to provide practical employment requirements, such as certification, job training, information on volunteer activity, employment success case, and what HR managers actually want from job seekers. It should provide not only general specifications such as 'academic credit management', 'certification', and 'foreign language', but also information about practical employment requirements that are actually required.

Second, we suggest app content for motivation and communication for career exploration. The motivation content is designed to visualize the process of creating a vision of a person's life and finding a dream. This will help improve the motivation of students to explore their careers and prepare for employment. App content for communication is composed to diversify the scope of information provision and communication channels. The study results revealed that most students use internet sites that obtain information on company and recruitment. These sites usually provide information on a nationwide basis. When developing app contents, contents related to job and work are composed by selecting the basic information that can be trusted by linking the work net dictionary and NCS site. App content

should be limited to the area of content of companies and recruitment information, while it should be set in a direction that deepens the specificity and depth of information. Since companies and recruitment information are real-time information that changes daily, it is necessary to establish a career wiki corner to promote interactive communication of information search and sharing. The content of the app needs to be equipped with an SNS function that enables daily communication with corporate HR managers. This content will provide various discussions and information providing such as the desired talent of the company with the corporate HR managers.

Third, we suggest app content to support counseling and consulting about career competency design. The app content should be configured so that students who wish to consult about the contents of their career exploration or preparation for employment can receive coaching services. To do this, app content should be loaded with data storage so that each student can use the results of their work in the app whenever they need it. The app content should be linkable both online and offline. For example, after students have access to the app to obtain information, they can consult to the on-campus employment support office, guidance professor, or consultant.

Fourth, we suggest app content that can provide objective diagnosis and comprehensive exploration for career competency design. When students decide on their career or employment, they make choices by combining three dimensions: aptitude, interest, and values. Therefore, it is possible to utilize the job type examination (career anchor) that combines these three dimensions. Career anchor can diagnose realistic standards of career and job choice, as well as acting as a job type test that is in line with the situation in which the development of the job domain is required. The app content for the career exploration process is divided into objective diagnosis and comprehensive searching. An objective diagnosis includes contents such as a career anchor test, vocational test, vocational interest, occupational values, and financial psychological test. In particular, a financial psychological test is an important content that diagnoses personality type and disability type of money and matches the results with job type. Therefore, a financial psychological test needs to be introduced. This content is different from existing apps that are mainly focused on personality tests and aptitude and interest tests. It will be a self-diagnostic content that is essential for self-examination and career exploration. A comprehensive search includes content that allows students to reflect and recognize their personality and unique aspects. This will help students find the right job for them.

Based on our research results, we make the following policy suggestions for efficient operation of employment career app

content at university. First, an integrated app system for freshman students needs to be built. An app-based integration system will help students organize their career preparation by taking the lead on their own situation from admission to employment. Second, using career and employment app content in the field requires multidimensional measures. First of all, students' self-directed career and employment education will be realized if there is practical discussion about how to integrate career employment app in career course, employment related course or extracurricular program. Currently, career and employment education are run by 'professional lecturers' and 'faculty'. Because classes instructed by professional lecturers are usually large, it is difficult for students to demonstrate their activeness. Since faculty members are not majoring in career or employment, they often have difficulty in leading their own education, and most of them are carrying out career and employment lessons with support from lesson plans and textbooks. The effectiveness of career and employment education is expected to be improved for students by providing app content that they can work on their own initiative. Third, it is necessary to verify the purpose and effectiveness of the app by developing career app and employment app. Empirical research will also facilitated the development of more effective app content for career exploration and job preparation. In addition, developing more effective app contents will mitigate the problem of mismatching employment, which is the core of the unemployment problem.

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