



Profile of Student Competence in Applying Technology as a Media for Guidance and Counseling Services

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Abstract. The purpose of this study is to determine the profile of student competence in applying technology as a medium for providing guidance and counseling services which is studied from aspects of knowledge, skills, and attitudes which are also analyzed based on gender and semester level. The study used a quantitative approach using a questionnaire instrument totaling 33 items. The subjects of the study were 49 students of the BKPI study program at the Tarbiyah faculty in semesters IV and VI. Data were analyzed using a quantitative descriptive approach and a t-test. The results of the study obtained data on student competence in applying technology as a whole in the very good category 20.41%, good category 10.20%, quite good category 40.82%, poor category even not good 18.37%. In the aspect of knowledge, it was found that 34.7% in the low category and 24.49 in the sufficient category, while in the aspect of attitudes and skills 28.57% in the low category and 42.65% in the sufficient category. This condition explains that more than half of students do not have the competence by expectations. The results of the different tests found no differences in competence based on gender, but at the semester level differences were found so that the design of guidance and counseling services in improving student competence through the provision of curative efforts, namely information services and content mastery integrated with the lecture process so that increasing student competence in applying technology can be carried out continuously and continuously until completion Follow the lecture process for 1 semester.

Keywords: Competence, Technology, Media Guidance and Counseling

1 Introduction

The use of technology in providing guidance and counseling services in education units is a challenge for counselors because it has become a demand in the 4.0 era. Counselors in charge of schools need to optimize digital literacy often called ICT literacy because in facing the era of disruption should not only obey computer literacy but also on a broader dimension, [1], which in application needs to integrate technology into guidance and counseling services accompanied by TPACK (Technology, Paedagogy, Content, and Knowledge) practices [2]; [3].

The implementation of ICT and TPACK-based counseling guidance services needs to be carried out by counselors because the students faced are individuals be

smartphones a part of their daily lives and lives are always driven by technology known as digital natives [4], so the provision of guidance and counseling services using technology by the needs of Generation Z.

Technology-based guidance and counseling services can be applied by counselors by innovating by utilizing various sources that are very easy to obtain and paying attention to the dimensions of combinatorial innovation which include 1) sensitivity to change, 2) incorporating the use of technology in guidance services 3) collaborating, 4) creating more effective service systems, 5) relevant service programs [5]. This dimension can be used as a reference for counselors to be able to design guidance and counseling services under the demands of the times and the characteristics of students so that competence in applying ICT as a medium for guidance and counseling services needs to be mastered. Competencies consist of knowledge, skills, and attitudes (Panczyk et al., 2020; Vergara-Rodríguez et al., 2022), which are featured in a series of professional duties. Competency focuses on a person's ability to manage demands (Schneider, 2019)

The competence of counselors in carrying out guidance and counseling services using the school web is needed because the services presented can be accessed by students anytime and anywhere. The web contains various services in the form of text, images, and videos designed in the form of guidance boards, pamphlets, booklets, PPTs, brochures, short videos, and counseling through WhatsApp and interactive videos. Services are designed according to the problems, and needs of students to achieve their developmental tasks. Services accessed via the web can be completed by providing various assignments as a form of feedback from students after accessing the services provided so that the functions of understanding, prevention, alleviation, and development and maintenance [6] From the implementation of guidance and counseling services can be achieved optimally and following expectations. In addition, counselors can also use Facebook as a tool to improve their students to complete journals, do exercises, and evaluate group work, both in text, audio, and video [7]; [8].

The implementation of technology-based counseling guidance services will help counselors who do not have special hours in providing services at school, especially counselors who have hours so that service materials uploaded through weblogs or websites can be accessed repeatedly so that a complete understanding of the service material presented is obtained. Therefore, the competence of students in applying technology-based counseling guidance services needs to be mastered. The efforts made by the guidance and counseling study program to realize student competence in applying technology-based Guidance and Counseling (BK) service media are by designing BK technology and media courses [9]. Although each BK / BKPI (Islamic Education Counseling Guidance) study program has a different course name, the substance is the same, namely equipping students with knowledge and skills in developing BK services using technology-based media. In addition, lecturers provide tasks related to the use of technology such as making mind mapping, flyers, PPT, brochures, pamphlets, and videos so that students are familiar with using technology in designing various information that is short, clear and attracts the attention of viewers and readers that students can use when designing technology-based BK services.

However, the reality in the field of the final semester students are still found to have not mastered competence in designing technology-based guidance and counseling media, so it is necessary to make preventive and curative efforts so that from the

first semester counselors and lecturers in developing these competencies through guidance and counseling services in universities. For this reason, the research questions that will be answered in this study are: how is the competence of students in applying digital-based guidance and counseling media, are there differences in student competence in applying digital-based guidance and counseling media studied from gender and semester level, as well as the design of guidance and counseling services.

The results of the research can be used as a basis for counselors and lecturers in designing guidance and counseling services in Higher Education. The services provided are an effort to improve student competence in applying digital-based guidance and counseling media. The difference between this research and the previous one is that research in improving ICT competence is carried out on guidance and counseling teachers by providing training and training that is carried out in a duration of several hours or days [10][11][12] while this research improves ICT competence carried out on students through designing guidance and counseling services that are integrated with the lecture process.

2 Methods

2.1 Research Strategy

This research is a quantitative research using a survey approach. The purpose of the study was to determine the competence of undergraduate students in designing technology-based guidance and counseling services. Research is carried out by distributing instrumentation in the form of questionnaires designed to reveal competencies that include knowledge, attitudes, and skills [13]–[16] in designing technology-based guidance and counseling services. Before the questionnaire was distributed to students, readability, validity, and reliability tests were carried out and a valid questionnaire of 33 items was obtained using a Likert scale with a reliability level of 0.970. The survey results will be used as a basis for developing student competencies through the development of learning strategies that will be applied by researchers to realize the achievement of graduate profiles as developers of guidance and counseling services through the use of technology-based media. The results of the study are also the basis for conducting further research later

2.2 Population and Sample

The population of this study is all students in the undergraduate guidance and counseling study program which amounts to:

Table 1. Profile Population research

Gender		Education level			
Man	Woman	Semester II	Semester IV	Semester VI	Semester VIII

Amount	28	87	36	20	29	30
Total	115		115			

The sample of this study focused on students in semester IV and VI is decomposed in the following table:

Table 2. Profile of research subjects

	Gender		Semester	
	Men	Women	Semester IV	Semester VI
Amount	11	38	20	29
Total	49		49	

2.3 Sampling Method

The sample taken using the purposive sampling approach is to determine information based on expertise knowledge and/or experience [17]. This research sample is a sample selection of students in semesters IV and VI because these two batches already have experience making assignments from various courses in developing the ability to use technology-based media in designing guidance and counseling services, They still have to take several courses that can be used as opportunities to hone competencies. Students in the second and VIII semesters are not used as research samples because they no longer have courses and focus on writing and examining written works before facing graduation, while second-semester students are not experienced in doing tasks regarding the use of technology-based media in providing guidance and counseling services because the courses that have been undertaken are general courses from institutions and faculties.

2.4 Data Collection

Data collection technique is a method used in research to collect data that researchers want. Data collection techniques are carried out by distributing questionnaires to reveal competencies consisting of knowledge, attitudes, and skills [13]–[16] Students applying technology-based media in designing guidance and counseling services. The questionnaire consists of 33 items using a scale of likers that decomposes as follows:

Table 3. Number of competency questionnaire items in each aspect

Item	Knowledge	Attitude	Skills	Amount
Number of Items	10	11	12	33

The results of the questionnaire were analyzed using descriptive statistics, consisting of mean, standard deviation, highest and lowest scores, and total number. Statistical descriptive data will be the basis for determining quality categories, which are also classified into five categories, namely very good, good, good enough, not good, and very not good. The profile will be analyzed using percentages whereas different test

analyses will use the calculated t score and t table through the results in an independent sample test table.

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3 Methods

The results of distributing questionnaires in uncovering student competence in applying ICT-based guidance and counseling service media obtained descriptive data on the basis for determining the quality score decomposed in Table 4 below:

Table 4. Descriptive Statistics Knowledge, Skills, and Attitudes of Students in applying Technology-Based Guidance and Counseling services

	N	Ideal score	Min	Max	Sum	Mean	Std. Deviation
Knowledge	49	55	11.00	39.00	1176.00	24.0000	8.86472
Skills	49	60	17.00	47.00	1735.00	35.4082	7.66463
Attitude	49	50	10.00	50.00	1590.00	32.4490	11.12816
Competence	49	165	38.00	132.00	4501.00	91.8571	24.89813
Valid N (listwise)	49						

Based on the table above, a quality score classification is carried out to obtain an overview of the knowledge, skills, and attitudes of students in applying ICT-based guidance and counseling services as shown in Figure 1 below:

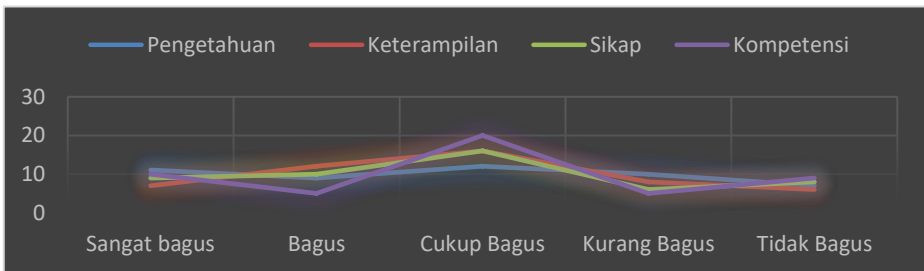


Fig. 1. Profile Quality of Student Knowledge, Skills and Attitudes in applying Technology-Based Guidance and Counseling services

The figure above explains the competence of students in applying digital technology in providing guidance and counseling services as a whole, broken down in Table 5 below:

Table 5. Student Competency Profile based on knowledge, skills, and attitudes in applying technology through the media of guidance and counseling services

Aspect	Very high		High		moderate		low		Very low	
	F	%	F	%	F	%	F	%	F	%
Knowledge	11	22,45	9	18,37	12	24,49	10	20,41	7	14,29
Skills	7	14,29	12	24,49	16	32,65	8	16,33	6	12,24
Attitude	9	18,37	10	20,41	16	32,65	6	12,24	8	16,33
Competence	10	20,41	5	10,20	20	40,82	5	10,20	9	18,37

Based on the results of the questionnaire analysis, it was found that in the knowledge aspect 40.82% of students already knew by expectations, 24.49% of students only knew some digital-based counseling guidance media and 34.7% of students did not even know about technology media in designing guidance boards, interactive videos, problem boxes, leaflets, web blogs, posters, banners digitally.

In the skill aspect, it was found that 38.58% of students already have skills in applying and developing digital-based guidance and counseling service media, 32.65% of students can partially apply and develop guidance and counseling media using technology, and 28.57% of students find it difficult and unable to use and develop various technology-based guidance and counseling service media, so students are not skilled in choosing media that by the BK services to be provided. Although 70-75% of students understand that the provision of technology-based guidance and counseling services can increase the interest of service targets, and is effective in terms of time because they can access services repeatedly they are eager to provide digital-based BK services. However, it is still found that one-third of students are not skilled in applying various media in providing technology-based guidance and counseling services.

In the attitude aspect, it was found that 38.78% of students already have a positive attitude towards the desire to take part in IT media development training in the provision of BK services and will apply it, they will prioritize service quality so that the objectives of implementing BK services can be achieved, will control emotions in dealing with various student responses after being given services through IT media. 32.65% of students have an attitude that is sometimes confident and not in providing IT-based BK services with their abilities, and there are still some students who will adapt to the times that demand the provision of services using IT. The attitude of students needs to be a concern for lecturers and study programs so that students are confident in their abilities so that they are able and willing to adapt to the times in this 4.0 era.

Based on the analysis of knowledge, skills, and attitudes which are indicators of competence [19] Data were obtained from 30.61% of students in the high competency category because they already have knowledge, skills, and attitudes that are by the demands of the 4.0 era, and 40.82% of students in medium competence because only some know various technology-based service media so that it is necessary to strengthen knowledge and skills in applying technology in using guidance and counseling service media which has an impact on forming a positive attitude and self-confidence Steady in applying technology-based guidance and counseling services. And it is still

found that 28.57% of students have competence in the low category even very low in terms of knowledge and skills regarding technology-based guidance and counseling service media.

This condition should be followed up by lecturers and study programs in designing guidance and counseling services as a curative effort so that student competence can increase on various devices and applications that have been used so far. The design of the implementation of information services and content mastery services is one form of guidance and counseling services in Higher Education that can be carried out by counselors. Lecturers who teach in BK / BKPI study programs, the majority of whom are counselors in universities, can improve student competence by designing guidance and counseling services integrated with the lecture process. Information services can be carried out by lecturers during the first lecture by discussing the purpose of the course, what material is discussed, and tasks during lectures that must be achieved to strengthen competence and prepare students to become prospective counselors in the digital era. Various information equipped with tutorials in creating guidance boards, interactive videos, problem boxes, leaflets, web blogs, posters, and banners digitally using Canva which is one of the free applications that students can use will complement students' knowledge of ICT-based BK media development. The information services provided are followed up by giving independent assignments to students to choose one of the ICT-based BK media such as guidance boards, interactive videos, problem boxes, leaflets, web blogs, posters, and banners. If the results of the assignment are not by expectations, the counselor who is also a lecturer can provide grades and notes on task improvement. Then students are given the same task with different subject matter that will be evaluated at the next lecture meeting, if the quality of assignments is still found to be not by expectations, the counselor/lecturer can design the implementation of content mastery services so that there is an increase in knowledge and skills so that the tasks given continuously every week will also form a positive attitude in strengthening student competence.

The provision of information services and mastery of content that is integrated with the lecture process can be used as a new pattern for lecturers to increase contextual-based student knowledge regarding ICT-based BK media. Student competence in using ICT media should not only be limited to guidance boards, interactive videos, problem boxes, leaflets, web blogs, posters, and banners digitally because according to [20]; [21] Guidance and counseling services using technology can also be in the form of email, chat, video conferencing, and text messaging or short message systems (SMS) using telephone, internet, and teleconferencing. Various ICT media that can be used in providing counseling guidance services can be centralized on web blogs/websites so that design services in the form of guidance boards, interactive videos, problem boxes, leaflets, web blogs, posters, and banners can be accessed by students repeatedly, anytime and anywhere, so that knowledge and skills in managing weblogs are also very important for students to master.

Weblogs are a form of social networking service that produces content to post and can be used to build social relationships with readers [22]. Weblogs specifically for guidance and counseling services can upload a variety of content that suits the needs and problems of students by the generation and demands of the times. This condition

reinforces the results of previous research that guidance and counseling cannot be separated from the touch of technological developments in its implementation is an integral part of education [23], So that how students can master these competencies becomes a target that must be achieved [24]. In addition, efforts to optimize the use of information and communication technology can be done through online and offline media whose implementation requires expertise [25] that prospective counselors must have knowledge, skills, and attitudes that support the formation of competence in applying technology-based guidance and counseling service media. such as compiling computer-based documents that can support data collection and instrument applications to the ability and skills to prepare interesting material through the selection of media that are following the services to be carried out, even the use of information technology, especially for prospective BK teachers, is the new generation of counseling today [26]. To complete the competency profile of students in applying technology-based guidance and counseling service media, researchers conducted different competency tests based on gender and semester level as described in Table 6 below :

Table 6. Descriptive Statistics Student Competence in Applying Technology Through Guidance and Counseling Service Media Based on Semester Level

	Semester	N	Mean	Std. Deviation	Std. Error Mean
Competence	Semester IV	20	76.9000	22.82173	5.10310
	Semester VI	29	102.1724	20.95926	3.89204

The data explains that the competency of semester VI students is higher than that of semester IV students. However, to test whether there are differences in student competence, a different test is carried out as described in table 7 below:

Table 7. Different Test Results Student Competence in Applying Technology Through Guidance and Counseling Service Media Based on Semester Level

		Levene's Test for Equality of Variances				T-Test For Equality Of Means				
		F	Sig.	T	Df	Sig. (2-Tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Of The Difference	
									Lower	Upper
Compe- tence	Equal ances As- sumed	.185	.669	-4.001	47	.000	-25.27241	6.31643	-37.97944	12.56539
	Equal ances Not Assumed			3.938	57	.000	25.27241	6.41791	38.25754	12.28729

Based on the results of the different tests, it was found that the t-count value was 4.001 with a sign 0,000 ($< 0,050$), so it can be concluded that there are differences in the competence of students VI and IV in applying technology-based guidance and

counseling service media. The results of this study are different from the findings of research [27] which found that there is no difference in the ICT Literacy degrees of students from different semesters. The results from different tests based on gender obtained data as described in Table 8 below:

Table 8. Descriptive Statistics Student Competence in Applying Technology Through Guidance and Counseling Service Media Based on Gender

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Competence	Man	11	88.0909	26.01713	7.84446
	Women	38	92.9474	24.81602	4.02569

The data explains that the competence of female students is higher than that of male students. To find out whether there are differences in competence based on gender, a different test is carried out as described in table 9 below:

Table 9. The Results of The Different Competency Tests of Students in Applying Technology Through The Media of Guidance and Counseling Services Based on Gender.

		Levene's Test For Equality Of Variances		T-Test For Equality Of Means						
		F	Sig.	T	Df	Sig. (2-Tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval Of The Difference	
									Lower	Upper
Competence	Equal Variances Assumed	.031	.861	-.566	47	.574	-4.85646	8.58569	-22.12863	12.41571
	Equal Variances Not Assumed			-.551	15.667	.590	-4.85646	8.81713	-23.58026	13.86734

The results of the different tests obtained data that the value of t calculated at 0.566 with a sig of 0.574 (> 0.050), it can be concluded that there is no difference in the competence of male and female students in applying technology-based guidance and counseling service media. The results of different tests in this study are the basis for counselors/lecturers in providing information services and mastery of content that is integrated with the lecture process. There are differences in tests based on semester levels so the assignments given to fourth-semester students will be more specific about assignments and assessments because they have higher competence than in semester VI. While the results of the competency test differ from gender there is no difference so counselors/lecturers in designing guidance and counseling services that are integrated with the lecture process only distinguish assignments between semesters but do not provide different assignments for students who are undergoing lectures in the same semester. The results of this study reinforce the research found by [28] who found that teaching experience and gender are not factors that affect the ability of Information And Communication Technology (ICT), so gender is not a determining

factor of competence possessed in applying ICT, as well as Yudi's research found that the degree of ICT Literacy of male and female students is relatively the same. [27].

4 Conclusion

The results of this study illustrate the profile of student competence in applying technology as a medium for guidance and counseling services based on knowledge, skills, and attitudes which overall 36.51% in the good and very good categories and 63.49% need to be improved competence because some still know and are skilled in applying technology and some are less or even not skilled in applying technology through the media of guidance services Counseling. The results of the different tests showed that there were no differences in competence based on gender but differences in competencies based on semester levels were found so that counselors/lecturers could design information services and mastery of content that were integrated with the lecture process with different tasks at the semester level but the same tasks as students who took the same semester

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