

Construction of Reasonable Accommodation by Chatbot Using SNS and Operation of an Accessibility Center

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Abstract: At Shikoku University, Japan, reasonable accommodation was introduced approximately four years ago for students who applied for consideration. We conducted a questionnaire survey querying students to ascertain their preferred communication method. As a result, we find that most students want an easy way to contact faculty using the LINE SNS app. We are proposing a system that uses AI chatbots via LINE for students who have been given reasonable accommodation.

Keywords: reasonable accommodation, learning support, AI chatbot, SNS

1. Introduction

Figure 1 shows the flow of correspondence between students who need academic support, especially reasonable accommodation, and related faculty members, from the time they enter university to graduation. This correspondence can be classified roughly into three categories, as follows:

- Anonymised questionnaire and study support: after enrollment, depending on the result of the student questionnaire regarding their concerns, other factors.
- Application procedure for the provision of reasonable accommodation: the application for consideration, the interview, review/approval, planning, agreement/signature, etc.
- Daily consultation and provision of information after consideration has been provided: in addition to consulting with students and dealing with their queries, etc.

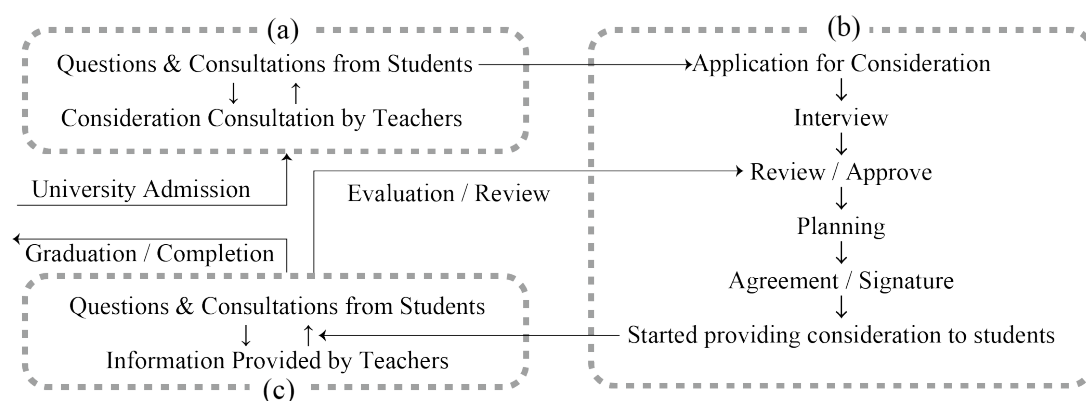


Figure 1. A rough flow chart of reasonable accommodation.

It is extremely difficult for faculty and staff to provide all this support due to time constraints. A questionnaire survey entitled “About the portal site for consideration only” was conducted with five students from the department. They had already been provided with reasonable accommodation for current accessibility on the university portal site and homepage.

2. Results of the Questionnaire on Portal Site Plan Dedicated to Consideration

In this questionnaire, we asked 11 questions anonymously from the web-only questionnaire page. All respondents were female, and there were five students with disabilities. Namely, three students had mental health disabilities, one a mental and hearing disability, and one was deaf. In line with other research results, the proportion of women with mental health disabilities is much higher than that of men [1]. Table 1 shows each question and the answers provided.

Table 1. *Survey Results*

Questions	Student A	Student B	Student C	Student D	Student E
Q1: What is your preferred way to contact university faculty and staff members? (Multiple selections possible)	Portal site e-mail	e-mail	SNS such as LINE, e-mail	SNS such as LINE e-mail	SNS such as LINE e-mail
Q2: Do you need to ask questions about university life, such as about lectures, on the site?	Necessary	Necessary	Necessary	Necessary	Necessary
Q3: On that site, do you want to create new applications, make changes, or suspend reasonable consideration?	Necessary	Unnecessary	Necessary	Necessary	Necessary
Q4: Do you wish to check the contents of the current consideration plan on the site?	Necessary	Unnecessary	Necessary	Necessary	Necessary
Q5: Do you wish to check today's lecture schedule via a listing on the site?	Don't know	Necessary	Necessary	Necessary	Necessary
Q6: Do you wish to pre-book classroom seat selection on the site?	Necessary	Unnecessary	Don't know	Don't know	Necessary
Q7: When you cannot attend a class, would you like to access it online?	Necessary	Necessary	Don't know	Necessary	Don't know
Q8: When you take a break from a lecture, do you want to check alternative assignments on the site and upload submissions?	Necessary	Necessary	Necessary	Necessary	Necessary
Q9: Have you any other requests for consideration that should be added?	No	No	No	No	Anonymous consultation
Q10: If you use such a site, do you have any concerns?	No	No	No	No	No
Q11: What do you think is the most important support to allow you to graduate?	None	Environment where consultation is easy	None	Like other students, I just want them to support me	Support for until graduation & support for job hunting

Concerning the students' preferred method of contacting the university in Q1, all of the respondents answered that using existing familiar communication methods such as e-mail and SNS was convenient for them and thus, convenience was the most important factor.

Q2 to Q8 relate to the type of system required for the web application planned for the future. Of these, for "general questions relating to issues such as lectures and missed lectures," the students mainly responded that these functions were needed, and that a counselling service was essential when planning a dedicated portal site.

Q9 also included a question about anonymous consultation as a desired function, so it is advisable to set up a separate anonymous consultation desk for the consulting aspect referred to in Q2.

Regarding concerns in Q10, all of the respondents answered that there is no particular problem.

For Q11, many students attached importance to "consultation and support" as the most relevant prerequisites for graduation. Thus, communication with students is the objective in the dedicated portal site plan and must be reflected in the design.

3. Plan for Conversational Chatbot Using SNS

According to the results of the questionnaire survey, many expressed a desire to use SNS as a way to contact faculty and staff. A number of researchers note the importance of communication using such web applications [2], and we would like to actively promote their use. Conversational chatbots can be used to great effect to compensate for the time constraints involved in making contact with a large number of students [3].

The detailed functions and features of each module will now be explained with reference to Figure 2.

- (a) The first step is to offer a web accessibility site that is open to all university students, and its main feature is that anyone can consult anonymously.
- (b) The next step is for students is to log in to their LINE and LINE @ accounts to enable more detailed procedures, and a series of application procedures.
- (c) LINE @ is a student only SNS for those who have already received reasonable consideration, as well as daily questions and counselling based on the consideration plan.

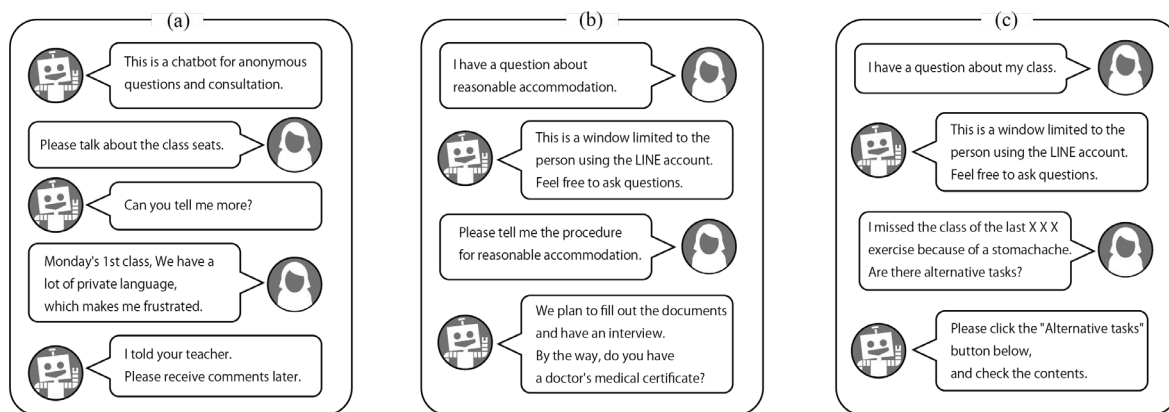


Figure 2. UI design of the chatbot system using SNS.

4. Conclusion

One of the solutions outlined here is the construction of an appropriate and multi-functional database using AI chatbots in order to determine whether or not reasonable consideration is necessary, depending on the chatbot's answers and context. To this end, we plan to obtain further necessary data from faculty and staff at Shikoku University via a questionnaire, in order to create a database about study support and reasonable accommodation, and to conduct practical experiments to improve the current system so that it can be implemented in a more efficient way.

Acknowledgement

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