Article

Rethinking Japan's Teaching Assistant System Post COVID-19

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COVID-19後の日本のティーチングアシスタントシステム再考

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Abstract

Critical thinking on the hiring of TAs before, during, and after the advent of COVID-19 is shared in this research study. Since 1992, universities have designed, implemented and benefitted from employing a Student Assistant (SA) or a Teaching Assistant (TA) in classrooms. These positions were cut during 2020 as emergency measures took hold. The authors discuss and rethink the TA system based on a questionnaire checked for sampling adequacy, validity and reliability with 157 participating students, TAs, and classroom instructors. Looking forward to a new normal in classrooms from 2021, new job descriptions are suggested for SAs and TAs that combine traditional classroom learning and e-learning into a new hybrid model of education assistance.

概　要

本調査研究では，COVID-19の出現前，出現中，出現後の，TA採用に関する批判的思考を共有する。1992年以来，本学は授業に学生アシスタント（SA）またはティーチングアシスタント（TA）システムを導入し，雇用し手当を給付してきた。2020年に緊急措置がとられたことにより，これらの職業は打ち切られた。著者らは，適切なサンプリング，妥当性と信頼性を確認したアンケートを，学生，TA，および授業講師157名に行い，それに基づき，TAシステムについて検討し再考した。従来型対面授業とeラーニングを融合させた，2021年の新標準のハイブリッド型教育授業を楽しみに，新しい教育補助の就労の形をSAとTAに提案していきたい。

Keywords: Teaching Assistant, face-to-face, classroom, E-learning, education methodology
キーワード　ティーチングアシスタント，対面，授業，eラーニング，英語教育法

1.　Introduction

This critical analysis begins with an accounting of university initiatives to improve educational methodology by hiring aides or assistants to support learners. Assistants require training, coordination, and remuneration, and that involves teaching faculty and staff. Therefore, comprehensive university TA Systems have been established. Parts 2 and 3 of this critical analysis describe the methods and the results obtained from a questionnaire investigating student, graduate student, and teacher attitudes towards changing the current TA System, their perceived difficulties, and training needs while adapting to change. COVID-19 has been such a disruptive event, that we label 2019–2020, the demarcation line of our analysis, Before Coronavirus (B.C.) and After Discovery

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(A.D). This investigation is followed in Part 4 by a discussion of the findings regarding student attitudes and perceived difficulties. In Part 5, a reframed approach to support learning based on a thorough understanding of the nature of change and the needs of students and teachers. To rethink the traditional TA System, this current study identified criteria, gathered information from stakeholders, and developed 10 ideas for a new model. Part 6 concluded by claiming why this study is important. Appendices and ample references attest to the sufficiency of statistics and reliability of the theory and data underlying the suggestions and validity of this research.

1.1. Introduction to the Current Problem

COVID-19 has disrupted all aspects of the economy. This paper focuses on how it affected full-time university teaching and part-time student jobs. Teaching hours, class frequency, teaching methods, and teaching resources changed overnight. School closings forced the lay-off of teaching assistants. Classroom instructors struggled to learn how to use virtual teaching tools.

1.2. Questions that Guided this Study

The process of helping others to learn more easily is key to the reduction of anxiety and the overcoming of barriers that learners have at the initial stages of the learning, particularly when learning a target foreign language (Richards and Rodgers, 2014). How do these B.C. Before-COVID teaching approaches mesh with the reality of remote classrooms? Discovery of a vaccine can put an end to COVID-19 but will that put an end to online learning? Looking ahead to 2021 A.D. (After Discovery) when students are shielded by a vaccine, what impact will anxiety have on tertiary education in Japan? Will the adoption of online learning continue to persist post-pandemic? What changes need to be made to bring back SAs and TAs? If online teaching is to continue successfully over the long-term, new education theory and approaches need to be discovered and updated methods must go into practice.

1.3. Previous Research on Teaching Assistant Related Educational Methodology

In the humanistic approaches to education, the learner is regarded as a whole person. Larsen-Freeman and Anderson (2011) suggest teachers consider their students' feelings as well as their physical reactions, their instinctive protective reactions and their desire to learn. According to Curran (1976),

learning is a unified, personal and social experience; the learner is not someone learning in isolation. La Forge (1983) emphasizes the importance of interaction as, "Language is people; language is persons in contact; language is persons in response" (p. 9). In a Community Language Learning (CLL) class, successful learning occurs when mutual understanding between the learner and the teacher is established on these psychological requirements: Security, Aggression, Attention, Reflection, Retention, and Discrimination (Curran, 1976, p. 6).

1.4. Teaching Assistant System in Japan

In 1987, the Japanese government developed a system enabling the hiring of university graduates from 40 nations to work as Assistant Language Teachers (ALT) in Junior and Senior High Schools. The legal system allowing for the employment of TAs to support classroom teaching at universities in Japan was introduced in 1992. Since then, many team teaching approaches have been designed for adding a Teaching Assistant (TA) into university classrooms. Student Assistants (SA) were also hired to help students. Adjunct models were developed so that students could take remedial language lessons with Teaching Fellows (TF). Tutorials let Native Speaking students (NS) help international students. When linked to the regular academic courses taught by professors, these models lead to successful outcomes in terms of student retention and GPA scores. The assistants required various forms of training, coordination, and remuneration that involved teaching faculty and staff; therefore university TA Systems were established.

According to Daizen (2014), the initial purpose of implementation at Hiroshima University was to give post-graduate students teaching experience and financial aid while enhancing undergraduate education. Instructors welcomed the help of reliable students as TAs. TAs with language skills and international perspectives enlivened classrooms. These students often brought abilities in web design, audio, and video editing, knowledge of other languages, and IT skills. Osaka University revised its SA and TA system from the 2018 academic year to introduce the status of Teaching Fellow (TF) to clearly differentiate between these part-time roles. SAs were to be engaged in class-related duties, but not in teaching. TAs could assist with supplementary duties in educational activity under the teacher's guidance TAs, under the teacher's

guidance, were to make plans for supplementary instruction and to, teach, develop, and manage classes. Universities often recruit individuals hoping to become a teacher. Osaka University (2017) advertised on its website, "Those hoping to get into a company will also have many opportunities to be on the teaching side in their careers. In that sense, working as a TA or TF will be of use in the future." (See Appendix Illustrations, Figure 1.)

In the year 2019 B.C. (Before Coronavirus), a TA could reasonably expect to assist instructors, interact with students, lead class discussions, set up audiovisual equipment and computer, take attendance, and prepare materials (Figure 1). Before COVID-19, technology in classrooms was already commonplace. TAs helped with language apps, virtual tutoring, video conferencing tools, and online learning software. Since COVID-19, demand for educational software has grown; yet, universities have erred by suspending the TA system in an effort to protect students and revenue.

1.5. TA System During COVID-19 Emergency Measures

As late as April 4, 2020, universities in Japan planned to hire returning undergraduates as SAs, and graduate students as TAs for the spring semester. When emergency levels rose in the Tokyo, Osaka, and Fukuoka areas, these part-time positions, along with club activities, were among the first to be curtailed by university boards. On March 27, the University of Tokyo's Komaba Campus closed its gates to all students. Ohta (2020) declared that 'For the first time since the establishment of the University of Tokyo, we have decided to adopt a mass introduction of online classes.'

The University of Tokyo and Osaka University managed to keep pace with the new semester and started online classes. Some regional universities soon followed this trend. However, Ritsumeikan University, Kyoto University, and Keio University chose to delay commencing their semesters to buy time to figure out how to develop online classes. A private university located in Kagoshima canceled the opening ceremony but asked teachers and staff to continue with orientation. However, forty SAs who had just been hired to greet freshmen students and to assist with course selections were suddenly let go. University management decided to cancel the SA information sessions and their participation throughout the semester. They announced, "From the position of preventing the spread of Coronaviruses as much as possible, in this semester, we are required to minimize contact with other people" (personal communication 2020, April 4). Some other campuses in Kyushu, Hokuriku, and Tohoku also planned to remain open and to offer regular classes in which teachers and students wore masks and practiced social distancing (Figure 6). Teachers hurriedly had to re-imagine their roles amid school closures and without SAs and TAs.

Much of the change was making a sudden shift to digital forms of teaching. Existing university computer platforms, and private sector solutions, such as Zoom and Google Drive, helped to facilitate communication to students at home. Some private universities in Japan transitioned to distance learning quickly. University of Kitakyushu administrators asked instructors to reformulate their classes for virtual delivery. They chose the platform, directed instructors to practice using it, and then informed students by internet announcements and email to start using the platform. Teachers posted out a month of lessons and homework tasks, requiring the writing of reports which the teachers could remotely check through a university platform that connects students to teachers. "At first, everyone is anxious and nervous for 25 minutes, then," she said, "everyone is loving the efficiency and the quiet, focused atmosphere."

Some universities have not been able to cope. University-wide distance learning was neither wanted nor anticipated by administrators. Although students and faculty have a degree of competency with digital tools and platforms, many institutions faced difficulty. The unplanned and rapid move to online learning, for instructors with no training and no support from a TA, and students with insufficient bandwidth and no support from a SA, was challenging during the months before emergency measures were lifted. Osamu Ikeda, a professor of educational methods at Kyoto Tachibana University, reported that 'The administrative level failed to face this crisis' (O'Donoghue, 2020). At Tokyo University, Ohta (2020), admitted, 'Honestly speaking, the College and the Graduate School have not had enough time to prepare for the introduction of online classes. We will have to go through a process of trial and error at first. Some teachers are unfamiliar with online classes and ICT education.' Even those campuses closed from April 18 until at least May 11 when all-Japan emergency measures came into effect. When the holdouts

closed, their university freshmen had no one to turn to with their questions. They still had not made new friends, joined clubs, toured campus, nor bought all their textbooks. Most freshmen were equipped with smartphones, but they weren't equipped with software applications to enable the writing of academic reports and documents.

The new Coronavirus measures were a massive top-down reform. They presented teachers with tremendous challenges. Under the new requirements, foreign language teachers could no longer just be knowledge-transmitters, teaching English vocabulary and grammar. They must teach overall communication competence, along with healthy mind and body development, motivation, efficient language learning strategies, and societal awareness. Teachers were required to use multimedia technology and online textbooks that were not required in their syllabi. Traditional strategies were no longer relevant in the new age of Zoom universities. Teachers had to quickly improve their own computer proficiency without which no tasks could be fulfilled. The most challenging issue was an expectation that they engage in most of the above initiatives simultaneously.

2. Methodology

Two questionnaires were developed, piloted, redrafted and checked for statistical significance. Referenced literature conducted by researchers and cited previous research attest to the reliability of the theory and data underlying the new suggestions and validity of this current research. Participants were informed a priori that their personal data was private and to only be used in this research. Research protocols required by the university and Ministry of Education were followed. The authors signed necessary assurances. Appendices attest to the sufficiency of statistics. Kaiser-Meyer-Olkin (KMO) readings of .658, and .451 with Bartlett scores of 149.977 and 359.755 respectively for Test 1 and Test 2, suggests sufficient numbers of questions and participants. Cronbach Alpha reached a significant 6.45 for the first 16 questions of Test 2.

3. Results

Test 1 was a survey with 20 questions collected 96 participants who were university language majors. The results obtained from 10 questions are displayed in this section, another 10 questions were written in opposite form to test for validity. Test 2 was a paper survey with 22 questions including open-ended subjective investigations and asking for participants to draw. Test 2 collected 51 questionnaires from university language majors. Graduates students and classroom instructors were also surveyed and interviewed. Conversations were recorded or redacted.

4. Data Analysis
4.1. Discussion on the Answers of Teachers

Responses by teachers who answered in Japanese were translated to English for this article. To quote one respondent, "During COVID-19, some students remained at home in China, and some Japanese students were studying abroad in foreign countries." Another teacher explained "There are a lot of Chinese students who have come from abroad to this university to study, and the level of their Japanese is not very good. Having a TA can really help me a lot. If a TA can speak Chinese, I would be very happy." One teacher responded, "Having a TA in previous years really helped me a lot to explain the lesson to Chinese students. I think it is necessary to have a TA who can provide Chinese translation for freshmen and for students who only have command of basic, or university entry-level of Japanese." Another commented, "I had good meetings with the TA before and after class. So maybe the TA has a lot of burden, but I think this meeting was also a kind of 'education'. It was mentioned that "Prior to COVID-19 emergency measures, the adoption of TAs and SAs was canceled. However because of the Coronavirus and studying abroad situations, I think TAs and SAs are a necessity. Especially the seminar freshmen should have had an SA and TA this semester."

When asked about training, graduate students wished for less theory-oriented talk and more practical demonstrations of classroom teaching. Graduate students asked for the chance to observe and discuss lessons with instructors. Others wished to learn to put theory into practice, such as by collaborative lesson planning activities based on technology.

4.2. Discussion on the answers by university students

In reply to the open-ended question "What kind of students do you think can be a TA?", 96 participants were grouped into 4 main answers: TA can be a student who is going to be a teacher in the future; TA can be a student who likes teaching

students; TA can be a student who is good at teaching; TA can teach students.

The first range of answers implied a vision for the future. It does not necessarily mean that students who currently have the ability and enthusiasm to be a teacher in their future are qualified to assist teachers or to teach students. It does not imply the students will be good TAs or succeed as a TA. The second group of answers, although they have the enthusiasm to teach students, may not have their corresponding ability. The third group of answers implies students who major in education can apply for the position of TA. The fourth group of answers seems to imply that students who have the ability to teach students, but may lack in enthusiasm. The 96 students wrote four similar answers, but in post-questionnaire discussions with students, and by thinking critically about these responses, it seems the criteria for hiring a TA are very different. It seems that the most suitable candidate to hire for the position of TA is a student with the ability to teach others, to assist teachers, is enthusiastic, and has plans to be a teacher. The position of TA is a job, but it affects the education of students.

Figure 5 positively correlates Test 2 Q3, Q8, and Q11 showing students who need, want, and wish for a TA.

4.3. Interpretation of Pictures

This section describes and analyses three pictures that are typical answers which students provided to the prompting in Question 22 of Test 2.

4.3.1 In figure 2, a participant penned a professor standing at a lectern. Three lines shoot from his mouth. These are labeled as "COVID-19." On the right side, we see a lecture hall full of identical, stick figure, students. One is labeled, "Me." Aerosolized droplets of spittle may be responsible for spreading the virus. This sketch shows the palpable fear that students have, and the struggle to maintain balance between learning and safety. While the professor speaks, the safest place to be is at the back of the classroom. Far away from infection, but far away from engagement (Figure 2).

4.3.2 In figure 3, a participant penciled a pony-tailed girl labeled "Me", whose thought bubble contains two question marks. A tear drips down her cheek. She holds a pencil and looks at a mostly blank page. Meanwhile, a friend raises her hand in a "Eureka!" moment. Her thought bubble contains a light bulb. Her face beams. She has put her pencil down, and

has completed the entire page. The student artist of Figure 3 shows that she prefers to study socially. Neither of the students are wearing masks. We see the benefit of learning in a social setting (See Appendix Illustrations Figure 3).

4.3.3 In figure 4, we see an elegantly dressed teacher indicating a blackboard, reading "Kagoshima's History" (written in Chinese characters). He is smiling, enthusiastic, and energetic. In a speech bubble, we see him say, "Here ~ we go!!" and, "Yeah!!" Meanwhile, two students sit, sweating profusely. Both are in masks. Their thoughts blend into the same bubble, ". . ." followed by the comment, "Here . . . He said here we go, aren't we?" This picture shows hurdles students face every day when dealing with classes in their non-native languages. Students fluent in general Japanese may lack the specific vocabulary to participate in class. The blackboard message, "Kagoshima's History," is telling. The vocabulary to participate in a historical discussion is often unfamiliar to the non-specialist. We also see a balance between the isolation of the figure 2, and the camaraderie of figure 3. In Figure 4, the two boys sit together, but they are isolated from the world around them. They wear masks, but the real barrier is language as they struggle to learn. They are isolated. But the drawing indicates togetherness. The boys overlap. They share sweat droplets. Their thoughts are indicated by a joint speech bubble, while the speaker of words is left vague. These representative examples show a range of experiences on campus when students must endure an international crisis. They show the experience of students, alone, together, or somehow alone together, struggling to live and learn (see Appendix Illustrations Figure 5).

4.4. Summary of Results

TAs are most useful as communication coordinators, or when confirming students' understanding. Most students believe that a TA's main role is to help students to understand teachers. The top answers relate to communication and understanding: "TAs can discuss with students", "English ability", and, "When teachers have no time, can ask TA." These answers reveal what students expect of TAs in the classroom. Responses to the questionnaires indicated that TAs play a role as bridges between teachers and students, operating in the liminal space between learning and expertise. Using this lens, let us look over the enumerated results.

The primary role of a TA, as indicated by students, is to

assist students in understanding their teachers. Often times, professors are far removed from their own university days, and also may be unfamiliar with new study techniques and methods which are available. TAs can be vital in finding relevant ways to reinforce a professor's lectures. For instance, ANKI is a phone application used for study with demonstrable efficacy (Deng, Gluckstein, Larsen, 2015). We believe that TAs are more readily able to find, use, and disseminate technology and new methods of learning to enhance the effectiveness of primary professors.

Students are often more able to communicate effectively with TAs than with professors. TAs have more time than professors to meet with students in order to answer questions, direct study, or address concerns. What's more, Suzuki and Howe (2013) found that many students use their TAs as aspirational figures and attempt to be more like them, implying that the distance between student and professor may be more difficult to initially overcome.

One great barrier to learning is finding a common language. A cacophony of languages does not lend itself to detailed education. A professor lacks the time to teach effectively while answering constant language questions, or clarifying points of cultural unfamiliarity. A TA is often more able to use their proximity to students, and their awareness of the professor's materials, to clarify points of language while not diminishing from the lecture time.

Students believe that TAs are effective surrogates when professors are unavailable. Students and professors have difficult and hectic schedules. TAs increase the chances that a student will be able to address concerns quickly.

The fifth most popular answer was that TAs help professors to print papers etc.. There menial tasks which must be done. A TA should be able to check for errors, offer feedback, and to assist with the creation and spread of documents.

In addition to the above questions as to the proper role of a TA, we asked students what student was most likely to be an effective TA. The most popular answer was, "Nice, Kind, Friendly," in first place, with "Can speak foreign languages" in a close second. In a distant third, we received, "Smart", with, "Cheerful/ enthusiastic," in fourth and "Can discuss with students," in fifth place. Using the lens of TA as mediator, let us look at this information.

Interviews published in The Harvard Gazette indicate that top educators have noticed that students are intimidated by professors. Professors often remain aloof and distant figures, while TAs are viewed as aspirational figures. Students may that engaging a professor will only expose their own shortcomings. The professors interviewed in The Harvard Gazette mention that students may often feel that their questions are insufficiently important to present to a professor. This discourages interaction. It seems that reassurance and emotional support are key aspects of being a TA. TAs can aggregate questions and concerns, allowing professors to know what the class thinks as the students retain anonymity.

The second most desirable trait is the ability to speak a foreign language. Many students with excellent general language ability lack the specialist vocabulary for a classroom discussion in a specific field. A literature student in an education course can find that years of meticulous study have not touched on the specific vocabulary that they need. A TA with foreign language ability can offer assistance without inconveniencing professors.

Students also wished to have "Smart," TAs. TAs must adapt the professor's general presentation to specific students. A TA must understand the class material thoroughly in order to explain it effectively.

Students desire TAs who are cheerful and enthusiastic. Students seem to want emotional support from their TAs. If intimidated by professors, emotional support from a cheerful TA can reintegrate students back into class.

Finally, students want a TA who can discuss their subject well. Students preferred the disposition of their hypothetical TA to their actual ability to speak to students. We believe that this indicates that the relationship between the students and their education is most effectively mediated through the facilitation of non-intimidating discussion.

Students also indicated a desire to learn about foreign cultures from their TAs. This, again, indicates that students have particular relationship goals with their hypothetical TAs rather than purely academic intentions.

We asked students for opinions on a TA's jobs and what a TA's workload would entail. Students believed that TAs should support students. Answers 2 and 3, "It's a good project," and, "Desire to TA in foreign language courses," tied. Finally, students indicated that TAs could assist in online courses and also generally help teachers.

TAs are understood to primarily be student support. Of the four most popular answers, all dealt with student interaction, while the last dealt with their relationship to the teachers.

We can see that, from the perspective of students, the role of the TA is a student facing role. Students believe TAs should primarily assist students. Although aware that TAs would be for professors, the students dwelt on the TA to student connection. General assistance is most wanted with secondary emphasis on language assistance. Students appear to place a premium on the relationships that they will have with their TAs.

5. TA System in Post-Covid-19 Classroom

Post-COVID, traditional classroom learning and e-learning can go hand in hand. A better, hybrid, model of education can emerge. As schools across Japan have tried distance learning over the past two months, significant discrepancies emerged. Teachers who could handle ICT devices smoothly have continued to use them to support students' learning at home. These teachers may continue teaching communication skills to help their students to survive in a future full of uncertainty. A few months of emergency measures have changed the way of teaching in Japan. It enabled teachers to reach out to students effectively through chat groups, video meetings, voting, and document sharing. Students also found it easier to communicate with teachers. Aware of the benefits, some teachers will continue to supplement their lessons with more technology. The rush to teach online was troublesome for some teachers and administrators. With the support of their registrar staff, those teachers may opt to return to the comfort of mass classroom lectures. Ohta (2020) noted, "We believe that traditional classes are still the best in terms of educational effectiveness." The belief that traditional forms of instruction are better continues to persist. Harari (2018) pointed out that many schools continue to focus on traditional academic skills and rote learning. The 2021 academic year could be an opportunity to increase the use of ICT, whereby traditional classroom teaching is supported by TAs who can further guide home lessons taken remotely and on digital platforms. Based on participant responses, we have practical suggestions and solutions for the TA system after the epidemic crisis has passed. Some are tailored to the requirements of a post-COVID world, and others are general areas where we believe that the TA system could be improved. Here are 10 recommendations.

5.1 Firstly, with the prevalence of phones, tablets, and other technology, it has never been easier to make and upload video. Teachers' lectures can be uploaded to YouTube very easily so that students who feel it necessary to avoid class may do so. The comments section may be useful as a forum for discussion.

5.2 Next, Zoom is a useful and popular application that facilitates video and audio sharing, allowing for virtual classes and/or virtual study groups/meetups. This could be a useful way to connect students together in small groups for general work.

5.3 Google Documents is an elegant application free to use for anyone with a Gmail account. It allows people to share and edit documents effectively. Professors can post documents there that students are able to download, or view remotely from any internet capable device.

5.4 Google Groups allows for threaded discussions along various themes. Private groups could be created by TAs, and then moderated by them. This would allow for a permanent archive of questions and discussion, allowing the compilation of a FAQs of the class, which would allow for the improvement of teaching.

5.5 The closing of schools, home confinement, and social distancing created a perceived need for the exchanging and establishing of global networks with other schools across borders. University teachers are keen to commence international project work, and to establish regular email communications with overseas students and like-minded teachers. These communications could be an opportunity for students to engage, practice, and improve their English on a weekly, biweekly, or monthly basis. The aim could be to develop a multifaceted and multicultural learning experience for learners whilst promoting English as the key language for communicating.

5.6 The general perception of students is that the TA is their primary go between in the classroom. This breaks down into two different desires which need to be addressed. Firstly, the desire for academic support, and secondly, the desire for language support.

5.7 TAs may be used in place of professors in order to address student questions. This maximizes the usefulness of

both parties. In order to do this, TAs must specific schedules and meeting locations; both of these things must be clearly conveyed to students regularly. Yale University often offers supplemental classes taught by TAs to elaborate upon the teacher's subjects and to give TAs a chance to teach material that they are studying.

5.8 If TAs are to function as front line translators, professors and the universities must understand the TA and students' language abilities. The most brilliant TA will be wasted in a classroom where the class requires a great deal of language instruction. A less academically talented student with excellent language ability may be preferable. TAs, Teachers, and Students must have clear lines of communication to address language based problems.

5.9 Students emphasize TA's personality as much as ability. Professors may benefit by choosing a gregarious TA rather than a student who excels at grading papers, but cannot effectively communicate with students. TAs must not allow themselves to be too removed from their students lest they lose their effectiveness. TAs must be encouraged to say, "I don't know, let's find out together," as a means of demonstrating to students the way of effective study.

5.10 TAs must work with their professors to ensure that the use of technology in the classroom is efficient and helpful. Whether this is asking professors to delegate basic technological tasks to TAs (i.e. printing) or teaching online courses, TAs are more likely to be familiar with the resources and applications that are most relevant to educating the current crop of students, and they should be encouraged to use this effectively.

6. Conclusion

The specific roles of TAs can address COVID-19 concerns and, hopefully apply to an After Discovery (A.D.) world of a preventative vaccine. Student replies to our questionnaires seemed to be adamant that TAs are effective at using technology. It would be excellent experience for TAs to learn to distribute information efficiently. We believe that it is in the interest of everyone if TAs take the lead in the distribution of information digitally, in order to facilitate remote learning in the present, and into the future. Although the pandemic disrupted the education system in Japan, we have an opportunity to transform education. The crisis could be the catalyst for Japan to embrace information and communication technology. Massive budget deficits will hinder governments from spending on education. Universities will be hard-pressed to raise their labor budgets. Teachers, however, cannot work 24 hours a day responding to students by SNS, emails, and Zooming. Rehiring relatively low-paid TAs to work evenings could maintain e-learning as part of the new normal.

6.1. Addendum

Physical steps that TAs can use in the reorganization of classroom spaces can facilitate hygiene. According to Mineo (2017), aerosolized viruses can stay active within a room for three hours after a discussion. Sunlight is allegedly effective at damaging the virus. To that end, outdoor classes offer an opportunity for students to meet together, with professors, and to have a semi traditional classroom setting. Simply without the room. Let us not forget that the very word "Academy" first referred to a grove of trees in Athens. TAs could set up outside lecture areas, bringing chairs and/or blankets, finding movable white boards, setting up sound equipment if needed. They could also liaison with students to inform them of outdoor classroom locations and to guide those who were not paying attention (Figure 6). This would allow students to maintain proper and hygienic social distancing while still attending classes, and enjoying the full benefit of real time face to face (perhaps mask to mask) contact with their professor, TA, and peers.

6.2. Future Study

Whether combating ignorance or combating disease, TAs are able to play a vital role in the education of students. The primary takeaway from all of this is that in order for any actions to be taken, we must first clearly define the goals and expectations between the three parties: professor, TA, and students.

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Appendix 1. Statistical Significance

1.1 Statistical Analyses of Test 1 (n=96)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.658
Bartlett's Test of Sphericity	Approx. Chi-Square	149.977
	df.	21
	Sig.	.000

Case Processing Summary

		N	%
Cases	Valid	89	93.7
	Excludeda	6	6.3
	Total	95	100.0

a. Listwise deletion based on all variables in the procedure.

1.2 Statistical Analyses of Test 2 (n=51)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.451
Bartlett's Test of Sphericity	Approx. Chi-Square	359.755
	df.	231
	Sig.	.000

Reliability Statistics

Cronbach's Alpha	N of items
.645	16

Case Processing Summary

|		N	%
Cases	Valid	51	100.0
	Excludeda	0	.0
	Total	51	100.0

a. Listwise deletion based on all variables in the procedure.

Appendix 2. Statistical Results

Q1. How do you think a TA can help you?

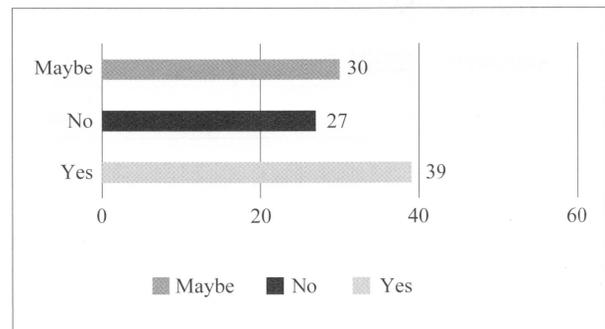| Top	Answers	No.
1	Help understand what teachers say	28
2	TA can discuss with students	6
3	English ability	5
4	Ask TA when teachers have no time	3
5	Help teacher to print paper	3

Q2. Which of your courses do you think needs a TA?
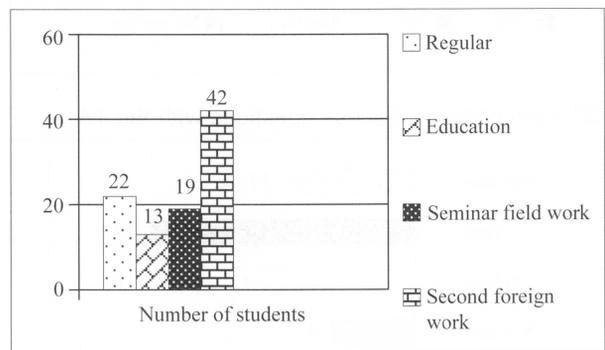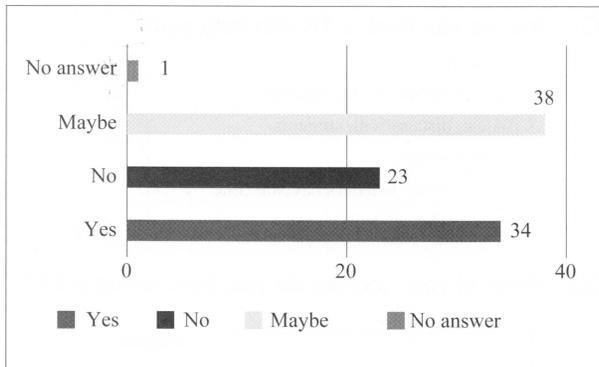

Q3. Do you mind if a TA corrects your homework?
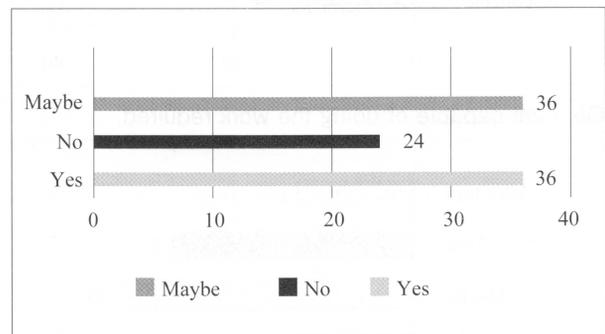
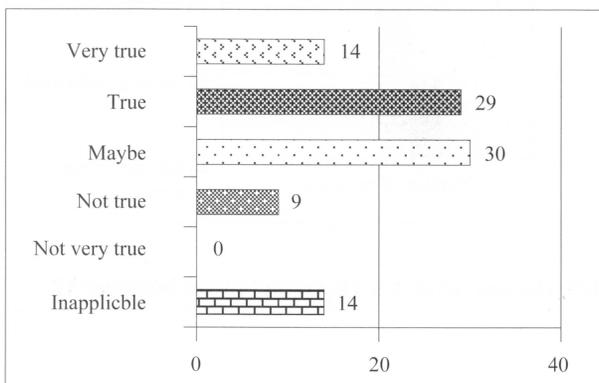### Q4. Do you mind if a TA is an international student?

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Q5. What kind of student do you think can be a TA?

Rank	Answers	No.
1	Nice, Kind, Friendly	25
2	Speak foreign languages	21
3	Smart	8
4	Cheer for enthusiasm	6
5	Can discuss with students	5

Q6. A postgraduate student can be a TA?

No answer 1
Maybe 38
No 23
Yes 34

■ Yes   ■ No   Maybe   ■ No answer

Q7. I am eager to discuss questions with the TA.

Very true 14
True 29
Maybe 30
Not true 9
Not very true 0
Inapplicble 14

Q8. I am capable of doing the work required.

Very true 13
True 27
Maybe 33
Not true 14
Not very true 2
Inapplicble 7
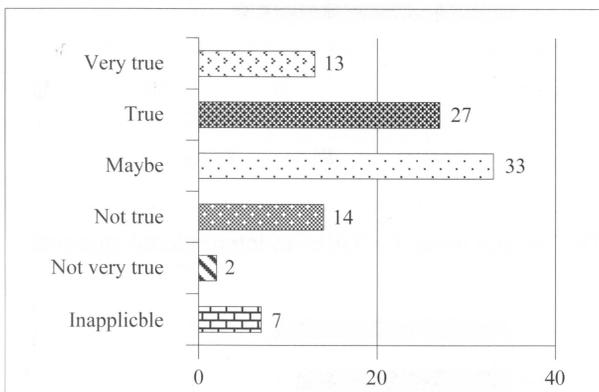
Q9. I have had positive interactions with previous TAs.

Very true 20
True 21
Maybe 30
Not true 4
Not very true 2
Inapplicble 19
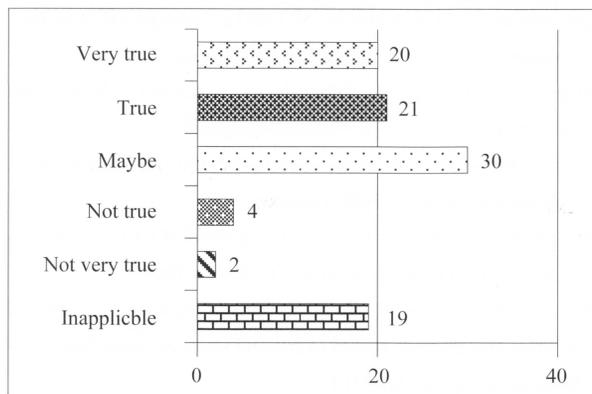
Q10. Write your original opinions about the job of TA.

Rank	Answers	No.
1	TAs can also support students.	10
2	It's a good research project.	9
3	Want TAs in foreign language courses.	9
4	TAs are needed for online courses.	6
5	TAs help teachers.	5

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Appendix 3. Illustration

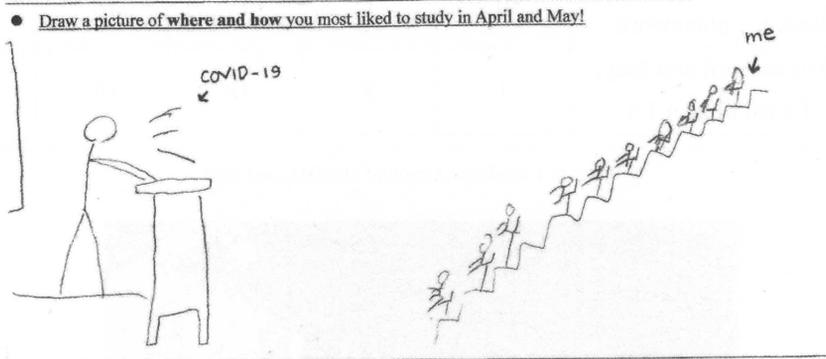Figure 1. Photo of SA interacting with freshmen.

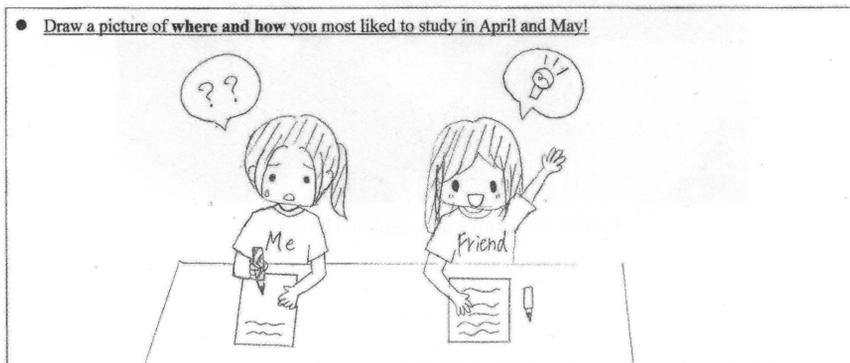Figure 2. Question 22. Where did you study?
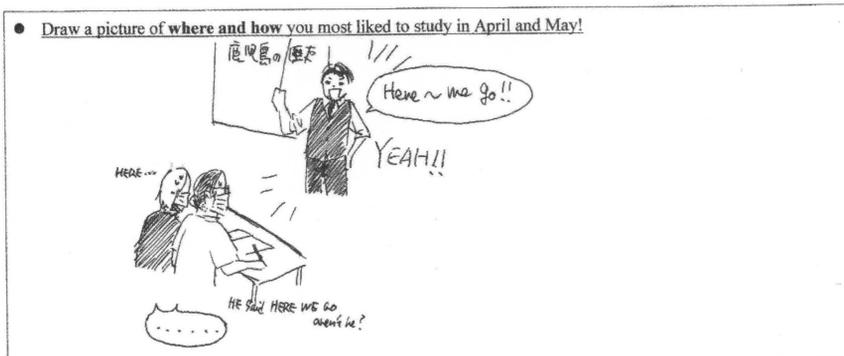

Figure 3. Question 22. How did you study?

Figure 4. Sketch of Classroom in Which all Students are Confused

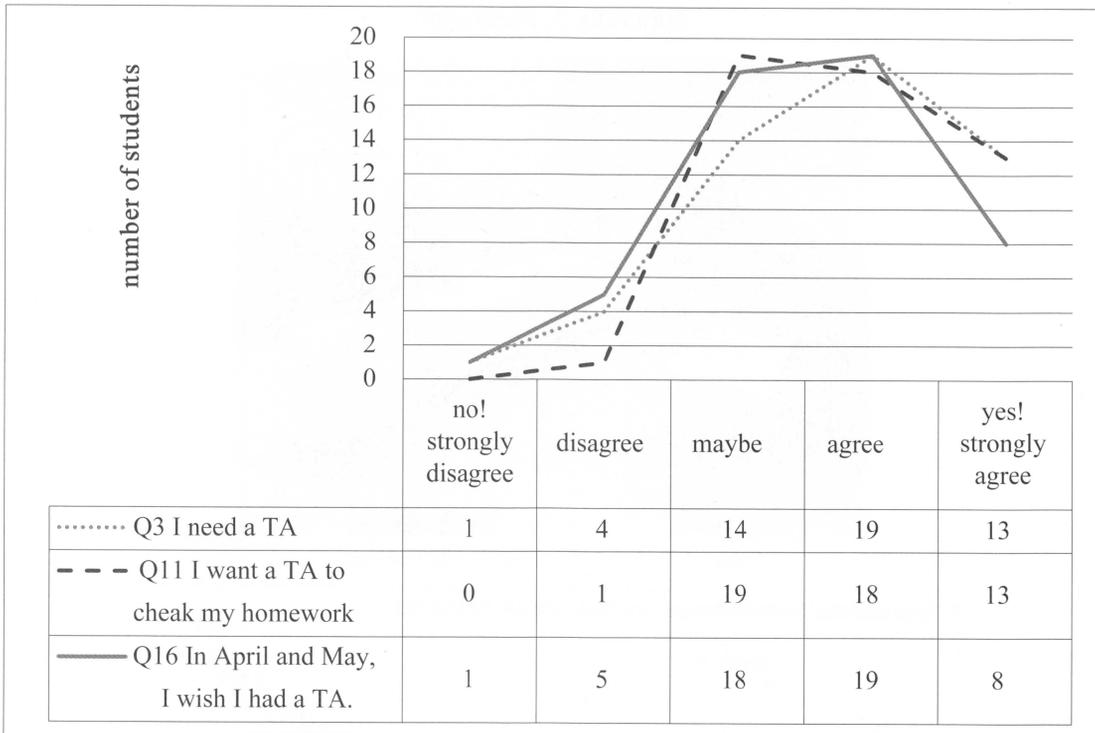|	no! strongly disagree	disagree	maybe	agree	yes! strongly agree
·········· Q3 I need a TA	1	4	14	19	13
– – – Q11 I want a TA to cheak my homework	0	1	19	18	13
——— Q16 In April and May, I wish I had a TA.	1	5	18	19	8

Figure 5. Correlation Graph of Q3, Q11, and Q16

Figure 6. Creative new outdoor classrooms