

Campus's Images: Implications from a Photo Exhibition

キャンパスのイメージ：写真展の結果と今後の展望

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要旨：本稿は、パンデミックが発生してからほぼ2年後の2021年12月から2022年1月に徳島大学で開催された写真コンテスト兼展示会の結果と展望を示しています。このコンテスト兼展示会は、徳島大学の学生とスタッフ全員に、キャンパスライフの思い出に残る体験と魅力を伝える機会として開かれました。写真の内容、説明テキスト、フィードバックフォームを分析しました。その結果、写真は大学の学生やスタッフの自己表現の潜在的なツールとなり、写真展はデジタルトランスフォーメーションの時代に大学のイメージを広げるための効果的なアプローチとして使用できることが実証されました。

キーワード：展示会、写真コンテスト、留学生、写真要素分析、感情分析

Abstract. This paper shows the results and implications of a photo contest cum exhibition conducted at Tokushima University during the period from December 2021 to January 2022, nearly two years into the pandemic. This contest cum exhibition was open to all students and staff at Tokushima University as an opportunity to convey their memorable experience and attractiveness of the campus life. We analyzed the photos' content, description texts, and feedback forms. The results demonstrated that photography could be a potential tool for self-expression of university's students and staff, and photo exhibition could be used as an effective approach to broadening the university's image during the era of digital transformation.

Keywords: exhibition, international student, photo contest, photo element analysis, sentiment analysis

Introduction

COVID-19 pandemic has made a serious impact on the higher education sector in Japan (Murata, 2021), especially on international students' academic life (Tanno, 2020). The impact of the pandemic was clearly observed during the first year after the outbreak, as the campus life had to undergo changes due to lockdown, restricted communication and limited social activities. These circumstances contributed to acceleration of ICT and digital transformation of higher education (Kano, 2020). At Tokushima University (hereafter, TU), like the other higher academic institutions, almost every kind of interactions including extracurricular activities and international exchange activities were cancelled. In 2020, a photo contest cum exhibition was held with the aim to encourage international students and foreign researchers to use photography to show what they have been experiencing during the COVID-19 pandemic and how they have been coping with the restrictions of daily life and campus life. The selected photos were being displayed at exhibition in December 2020. We already reported results of qualitative analysis of the text data

under four major categories including restriction, enjoyment, self-confidence, motivation (Tran, 2020), and results of data analysis using sentiment analysis approach, which clarified the sentiment of underlying messages by the international students who participated in the photo contest (Tran, 2021).

After the first event in 2020, we conducted the second photo contest cum exhibition "My Tokushima Campus Life 2021" during the period from December 2021 to January 2022, nearly two years into the pandemic (TU, 2021). This time, taken the fact that the students and staff are already get used to the pandemic situation and new normality is already somehow established, we changed the theme of the photo contest into showing viability and attractiveness of campus life during the pandemic. We also expanded the target groups for involving more students and university staff into this activity.

Photo contest has been implemented by many higher institutions as an effective tool for various purposes including image promotion and multicultural exchange. Regardless of the successful outcomes of these contests,

little has been known about the characteristics of the photos displayed, the underlying messages and sentiments of the images being displayed and the associations of the related factors, as well as the potentials of using photos and photo contests during digital transformation.

In this paper, we aim to describe the characteristics of the photos and clarify the contents of the photos displayed at the Photo contest and Exhibition “My Tokushima Campus Life 2021”, in order to shed some more light to understand what are the messages and sentiments that the participants want to convey. This could help to understand the needs of participants and the possibilities to design more effective international exchange activities and campus promotion for the future.

Method

Participants and procedure

The paper analyzed the cross-sectional data obtained from the photo contest cum exhibition in 2021. The recruitment of photos was openly announced to all students and staff via the TU’s International Office homepage. Participants submitted their data via email. The data for analysis was collected from the following sources: (1) photographic works submitted by international student-participants; (2) work title and description text; (3) feedback forms of the participants. Figure 1 shows the sample of photo and description text needed for submission.

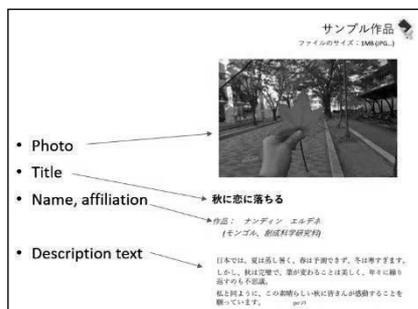


Figure 1: Requirement for exhibition

Photo element analysis

We conducted a visual photo element analysis of the photos according to some common criteria (Dhan, n.d.; National Archives, n.d.). As shown in Figure 2, these criteria were similar to the criteria we used to analyze the results of the previous photo contest (Tran, 2021). Criteria for analysis were the focus (human, non-human), the group (human in groups, no group), the timing (day, night, indoors), the angle (wide, narrow), the sky (yes, no), the warm color (main color of yellow or red, none) etc. We used the following independent variables for correlation analysis: the campus (Kuramoto, Josanjima), the status (staff, undergraduate,

graduate), the nationality (Japan, others), the field of study (medical, dental, pharmaceutical, nutrition, engineering), the gender (female, male).

Sentiment analysis

We also analyzed the text data collected from photo descriptions by using Sentiment Analyzer web tool (Soper, n.d.-a). Since it works only with English text, the texts in Japanese were translated into English. After inputting the text, the tool automatically calculates the score describing overall sentiment, tone, emotion of input text. The score is displayed in a range from (-100) to (+100), whereas (-100) indicates very negative/serious sentiments, while (+100) shows very positive/enthusiastic sentiments. Word cloud was created using the combined English description text data of all photos (Soper, n.d.-b). Data from post-contest feedback forms from participants are being analyzed qualitatively. Quantitative data was processed using SPSS statistics version 27.0 for Windows (IBM Corp., Armonk, NY, USA).

Results

Characteristics of participants

There were 14 participants sent their works to the exhibition, including a TU’s staff, 2 undergraduate students and 11 graduate students (Figure 2). The participants were from 6 countries (Japan, Indonesia, China, Bangladesh, Vietnam, Mongolia). Female participants consisted of a half of the participants (7/14).

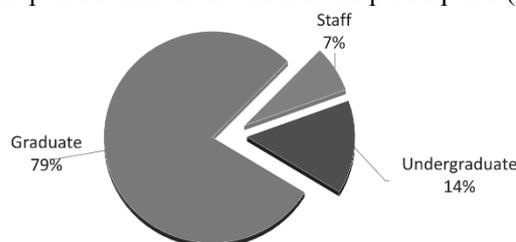


Figure 2: Breakdown of participants

By the language of photo title and description, 16% (4/14) of participants were submitted in Japanese, while the others were submitted in English.

Photo element analysis

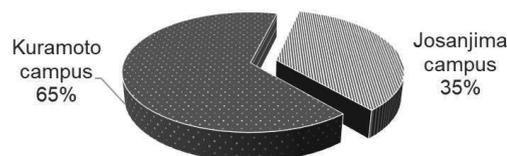


Figure 3: The campus where the photo is taken

Figure 3 shows if the photos were taken inside the Josanjima campus or Kuramoto campus. The fact that two third of photos were taken at Kuramoto campus reflected the location of affiliation of the participants.

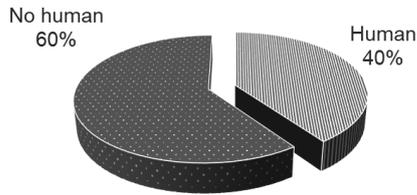


Figure 4: Human as the focal subject

Figure 4 shows if human stay at the focus of the photos. Less than a half (8/20) of the photos were taken with human may reflect the sentiment that the participants may have been spending more time in seclusion without human interaction. Most of the photos with human subjects (7/8) were posed, including 2 selfies, and 6 portraits.

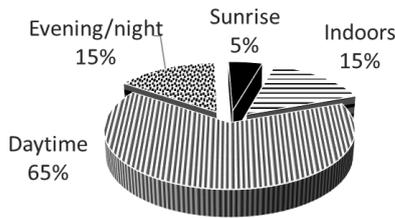


Figure 5: Time when the photos were taken

Figure 5 shows the time when the photos were taken. Unsurprisingly, 65% of photos were taken outdoors during daytime. This percentage may reflect that the participants may have been spending more active time during the daytime. Only 15% of the photos were taken indoors.

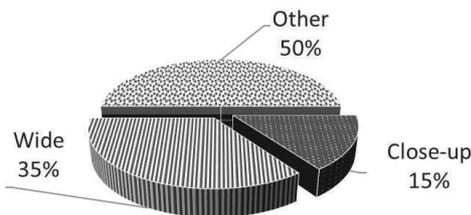


Figure 6: Angle of the photos

Figure 6 describes the angle by which the photos were taken. Over a third of the photos were taken with wide angle while less than a sixth of the photos were taken close-up. This percentage may reflect that the participants may have been spending more active time outdoor in wide spaces.

Besides the characteristics described above, all the photos were submitted without any trait of editing. Almost all the participants reported to be beginners with no experience with photography. Most of the photos were reported to be taken with smartphone.

Sentiment analysis of the description text

We conducted sentiment analysis of each description text separately. As shown in the Figure 7, 70% of the photos had positive tone of sentiment. However,

analysis of a combined text of all 20 photos showed a sentiment score of -50.5, which implied that the combined sentiment of all photos was somehow negative or serious.

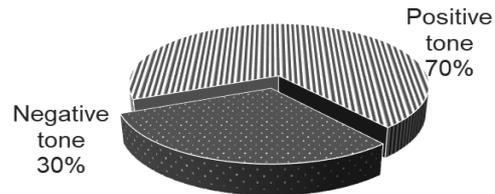


Figure 7: Sentiment scores

Moreover, we investigated the association of dependent variables with independent variables and found a correlation between the sentiment score and the campus where the photos were taken. Interestingly, photos taken at Josanjima campus had higher sentiment score than those taken at Kuramoto campus (Table 1). Regarding the other independent variables including nationality, gender, status, and field of study, no association with sentiment score was found.

Table 1: Sentiment scores and the campus

Campus	N	Mean	SD	SE Mean
Kuramoto	13	23.08	101.27	28.09
Josanjima	7	71.43	75.59	28.58
Total	20	40	94.03	

*Independent sample test, $p < 0.05$

Regarding association in between dependent variables, we found a negative association between the photos with people groups and the sentiment score (Table 2).

Table 2: Sentiment scores and the people groups

People groups	Sentiment Score	
	Spearman's	-.509*
p-value	0.022	
N	20	

* $p < 0.05$ (2-tailed).

Figure 8 represents a word cloud generated from the combined description text of all photos. The most frequently cited word was Tokushima, which reflected the current place for staying and studying. Down the list of frequency were the words of life, university, international, world, pandemic, autumn, color, photo, student and so forth.



Figure 8: Word cloud of the description text

Discussion

Throughout its history, photography has helped people to understand and interpret the reality. It has been reinvented continually through technological advancements and by the diverse ways in which not only professionals but also almost any person has used it. Taking, sharing, and viewing photographs has become nature for many. As there is always a gap between seeing and understanding photographs (MoMA, 2020), we took a step to look at the elements of the photos displayed and going behind the scenes of the exhibition.

Regarding the methodology of analysis, in this study, we intended to use the sentiment analysis approach for analysis of the image and text data. Predicting the sentiment of an image in terms of positive and negative polarity has been studied (Ortiz et al., 2019) and reliable tools for image sentiment analysis are on the way to be developed (Gajarla & Gupta, 2020). Due to difficulty to find applications for image sentiment analysis, we used the text sentiment analysis instead. Nevertheless, text sentiment analysis is still a difficult task because it involves human emotions (Soper, n.d.-a). We used a simple tool for general-purpose sentiment analysis on English text only. The application uses algorithms of linguistics and text mining to automatically determine the sentiment or affective nature of the text being analyzed. The overall sentiment score produced by this tool is for general-purpose use, then it may have disadvantages regarding accuracy and bias.

Regarding potential of photography as a tool for conveying experiences and reflection of the participants have shown that they have enjoyed the event and think that photography exercises, when conducted in the form of contest could work well during pandemic because of its simplicity. Busy with studies and experiments, some stated that they probably will not be able to participate in any time-taking event which needs long preparation. As hobbies and preferences varied widely by individual, all agreed that during pandemic, activities should be conducted online or with as less physical contact as possible. Participants shared that via photography, they could be able to express themselves and to describe changes that the pandemic has resulted in. This photo contest was conducted during the COVID-19 seems to be a major factor that strongly affect the sentiment. Regardless of the restrictions, most of the photos described about enjoyment of daily life, such as spending time relaxing with the landscapes, sunrise, buildings, and trees. The scenes of TU were well described, as during pandemic, there is more time to calm down and to see the campus in a new light.

This contest was implemented at almost two years into the COVID-19 pandemic. Therefore, the photos would

somehow consciously or sub-consciously convey messages reflecting this period. Regarding the association of the photos' messages and the impact of pandemic on campus life, our findings were consistent with the results of previous contest conducted in 2020, where we found messages about restriction, changing the study pattern and lifestyles, as well as enjoyment and motivation (Tran, 2020). Figure 9 shows a tendency of more presence of human and indoors photos, which may imply that the human contact and communication has increased in 2021.

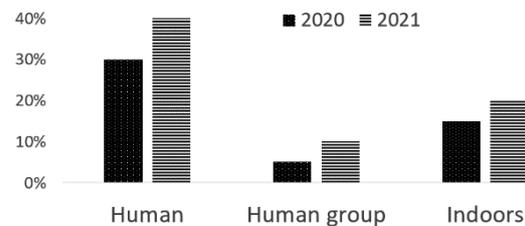


Figure 9: Comparison with previous contest

Regarding potential of photo contest which uses photography to involve participants, there have been many examples of conducting successful events. Photo contest is proven to be a simple but effective tool for extracurricular exchange activities. Many institutions have used photography contests as a form of exchange activities. These contests attract high number of participants including international students, Japanese students, and staff, and visitors to the Exhibition or to SNS. (JASSO, 2019). The contest organized at Tokyo University had attracted many photos promoting multicultural images of the campus created by students and staff (UTokyo, 2016). Photo contests could be organized for attracting potential students (Nippon Photography Institute, 2020), or for disseminating local images (Iwate International Student Exchange Promotion Council, 2020). Sometimes, photo contest also could be used for education and research purpose such as to engage students into investigating a specific issue (Taguchi, 2015). Photo contests can be organized during the pandemic for promotional purposes (Kagawa University, 2020). If being supported by local institutions, even partly, photo contest could be a powerful tool for promoting image of a school, university, or town. Moreover, our results also might show that for the international students who arrived in Japan after the outbreak of pandemic, who had no opportunities to experience Japanese culture, photography could be a potential tool for engagement.

Regarding photo contest as a tool for broadcasting the positive image and attractiveness of the campus life, we could see a gap between the achieved results of the event and the potential impact that it could bring. As referred to the participants' constructive feedback, we found the needs from the participants to improve this kind of events to be more inclusive and attractive. For implementing the contest cum exhibition, we faced many challenges due to the pandemic situations. In

future events, we may consider a live session at the exhibition hall, where the participants stand-by their works and explain to the visitors about their context and feeling when taking the photograph. We also may consider making online voting and online exhibition using a social network platform. Meaningful and attractive themes should also be considered, as well as to seek sponsorship for giving more awards in an award conferring ceremony.

This report's results should be interpreted considering its limitations. A dominant portion of participants consisted of international graduate students, who tend to use English in their study. In 2021, the fact that the targets of participants had been expanded compared to the previous contest, as well as the recruitment notice was shorter could be the reasons for low participation rate, especially with regards to university staff and Japanese students' engagement. As such, these results should be carefully interpreted. There will be also a potential bias in translation of description text to English. The capacity of the tools employed for image and text sentiment analysis was also a limitation. The low number of participants also hinder us from producing statistically significant associations of the results with independent variables. While COVID-19 seems to be a major factor that strongly affect the sentiment, within this study, the evidence is still insufficient, so we leave it to a future investigation.

Conclusion

The results of the Photo Contest Exhibition "My Tokushima Campus Life 2021" have shown that photography and photo contest exhibition could be used as an effective approach to engage students during the pandemic situation when it is not possible to conduct the traditional face-to-face exchanges events. While the participants could enjoy taking photographs as a part time hobby and a way for self-expression, a photo contest exhibition could be used as an effective approach to engage students and staff and for broadcasting widely the image and the attractiveness of campus life beyond the pandemic. Possibilities of photo contest are still open for future exploration, as it could contribute to effective international exchange and campus promotion.

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