

# Visual Evaluation of “The Way of Tea” Based on Questionnaire Survey Between Chinese and Japanese

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**Abstract.** In this paper, “The way of tea” process conducted by expert, non-expert and beginner was investigated. Firstly, final tea made by expert, non-expert and beginner applying three kinds of tea whisks were taken into photos. Afterwards, random ranked tea photos were employed as visual evaluation questionnaire and subjective ranking material. In order to compare and characterize “The way of tea” process difference, 10 Japanese and 10 Chinese participants were chosen as evaluation subjects. Consequently, it can be concluded that both Japanese and Chinese are able to distinguish expert’s tea as top rank easily because of sufficient small bubble size on the tea surface.

**Keywords:** The way of tea · Visual evaluation · Japanese tea · Questionnaire survey · Chinese and Japanese

## 1 Introduction

“The Way of Tea” is called the “Japanese tea ceremony”, which is a special ceremonial art preparation and presentation of “Matcha”(a kind of green tea powder) to entertain the guests, through the tea ceremony people will achieve temperament, improve the cultural quality and aesthetic view. The essence of “The Way of Tea” is meant to demonstrate reverence and respect between host and guest, both of them can truly experience the artistic conception and taste the most primitive taste of green tea during tea-tasting activity and service process with the tallest state of the etiquette.

“Urasenke” is one of the three main genres of “Japanese tea ceremony”, which is derived from “Sen-Rikyu”. The other two main genres are “Omotesenke” and “Mushakojisenke”. The different tea genres have different tea making skills after diversified

development. However “The Way of Tea” of each genre is consisted of many specific and strict procedures, whose basic skill just only handed over by oral instructions by expert.

Therefore, in order to create a favorable atmosphere between the tea master and guest the tea masters have to study and practice for a long time to master and understand the whole tea ceremony [1, 2]. However, until now the scientific evaluation for the process analysis of “The way of tea” is limited [3]. But above all, it’s very difficult for every master to inherit the essentials of tea ceremony essentials to the next generation without an effective way.

In this research, expert, non-expert with different experience years and beginners were employed as the behavior subjects. The three types of different tea whisks as the same with previous research, “Yabunouchi”, “Kankyuan”, “Ensyu” were used to make tea. Through visual perceiving directly on final product, we would like to clarify the relationship between bubble distribution/size and process characterization.

As well known, no matter use what kind of tea whisks, the final bubble distribution was one of most important features for a tasty tea, which depend on the bubble size, distribution and so on. On the other hand, the bubble forming process was also reflected the characteristics of the tea whisks’ performance. It is notify that expert can master the performance of three types of tea whisks than non-expert and beginner, and made excellent cups of tea with sufficient small bubble. Therefore, evaluation subjects were easily to distinguish the tea photos of expert and then give a high rank.

In a word, the purpose of this study is through visual evaluation to clarify “The way of tea” process characteristic in order to provide a suggestion to help learner easier to understand and keep the perfect tea impression in mind (Fig. 1).



**Fig. 1.** The way of tea

## 2 Experiment

### 2.1 Participants

A Japanese tea master (expert), a non-expert and four other beginners from Kyoto were employed as the tea conductor participant. Especially, expert participant had more than 30 years experience in “the way of tea”, who can keep the motion of scooping water and ensure the added water weight in the bowl nearly the same for each tea making process.

### 2.2 Evaluation Subjects and Objects

Three types of Japanese tea whisks were prepared for participants to make the tea as “Yabunouchi”, “Kankyuan”, “Ensyu”, which were the three most popular tea whisks in Japan as shown in Fig. 2. And the made teas were taken into photo and 15 pieces were used for following visual evaluation process. Finally, 10 Japanese and 10 Chinese were required to assess the tea and give a total rank.



**Fig. 2.** Three types of Japanese tea whisks

### 2.3 Experimental Process

Every participant was required to make 3 cups of tea by previous three kinds of tea whisk one by one, during the process 1.5 g of “Matcha” tea powder and approximate 56 g of hot water were dumped into the bowl following with hard mixing behavior, and finished tea were taken into photo by single-lens reflex camera (D40x Nikon CO. Ltd) immediately to record the bubble distribution and bubble size on the tea surface. Selected tea photos for visual evaluation were illustrated in Fig. 3.

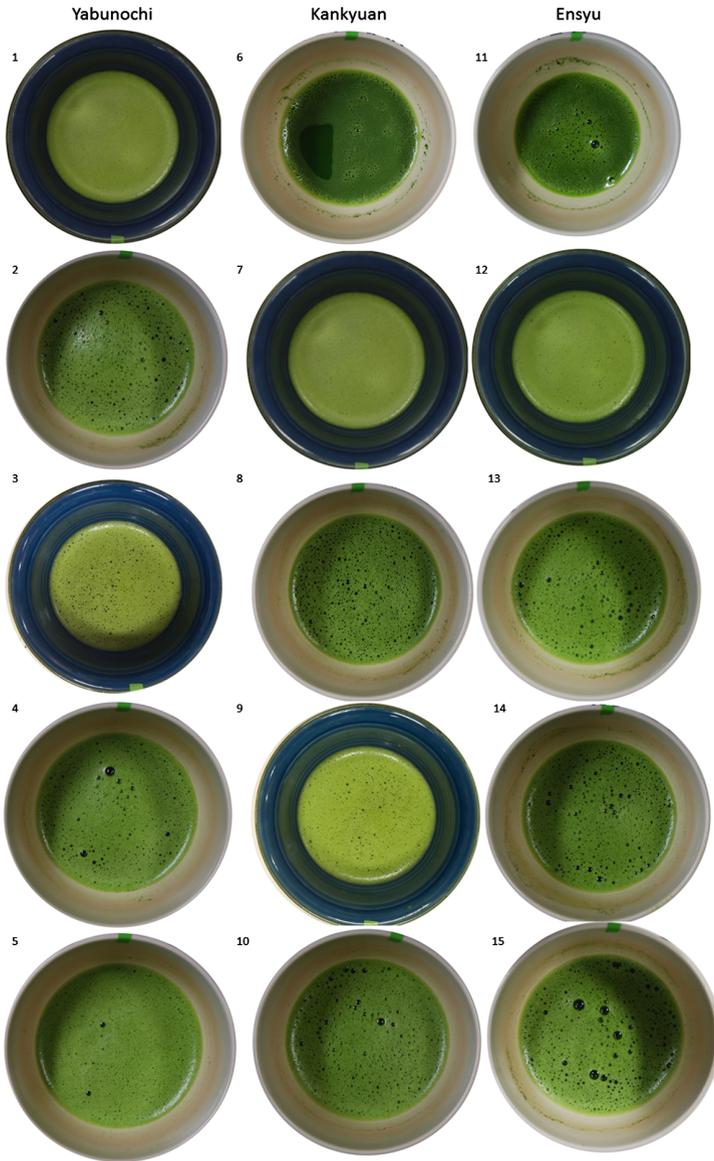


Fig. 3. Random scheduled tea photos

### 3 Results and Discussions

As illustrated in Fig. 4, ranked tea photos in top 3 and bottom 3 were voted by 20 evaluation subjects landside. Comparing with rank bottom 3 group, rank top 3 group showed lighter tea green color with rich and creamy small bubbles on the surface. On the opposite, bottom rank 3 group showed dark green color with inconformity bubble size.

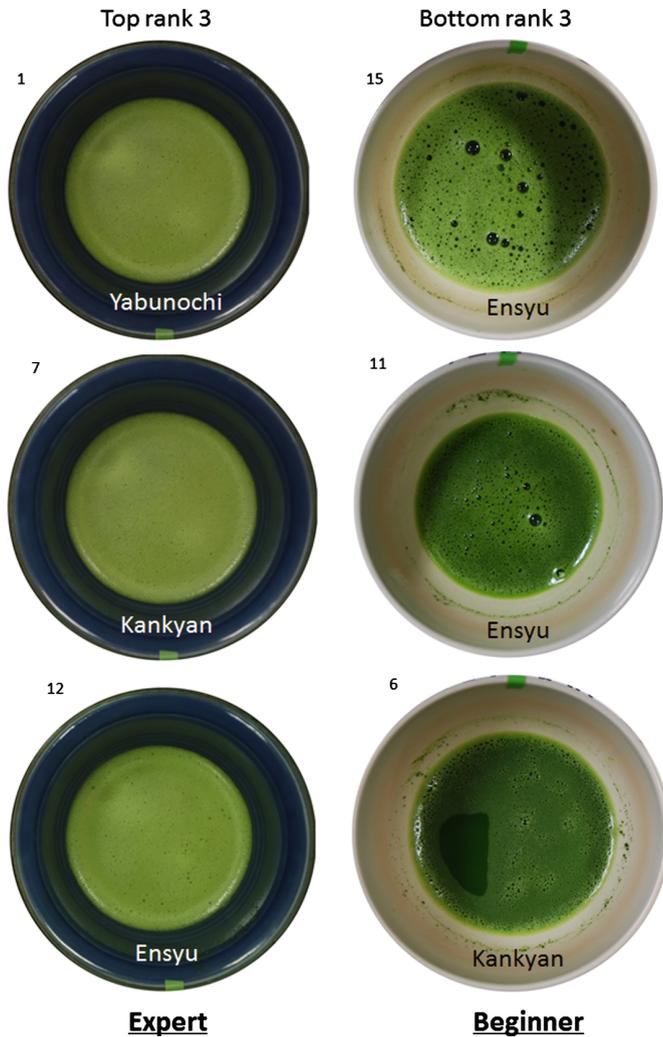


Fig. 4. Ranked tea photos in Top 3 and Bottom 3

### 3.1 Tea Aesthetic Comparison Between China and Japan

Japanese tea ceremony originated from China, which has its own formation, development process and specific connotation with the charming of oriental culture. Learning tea ceremony could cultivate people's aesthetic and moral values. According to the rank of tea photos, both Chinese and Japanese evaluation subjects showed the same vote of top 3 and bottom 3 groups. It was considered that tea culture and tea aesthetic were the same between two countries even along with spreading, so the tea process characteristic also can be concluded to be the same.

### 3.2 Tea Whisk Comparison Between Yabunouchi, Kankyuan and Ensyu

According to the summarized results in Table 1, it is obvious to find that expert's tea made by Yabunouchi was ranked higher than Kankyuan and Ensyu. The shape was different from three kinds of tea whisks, based on previous study conclusion, the tea whisk of "Yabunouchi" was presented the wider distribution of small bubbles. And bubbles made by "Kankyuan" and "Ensyu" were almost concentrated in the range of  $0.2 \sim 1 \text{ mm}^2$ . In a word, the bubbles showed smaller size after mixing by applying "Yabunouchi" tea whisk. Therefore, it is clarified that tea made by Yabunouchi with smaller bubble size could be accepted and favored by larger numbers of people.

**Table 1.** Evaluation summarized results

Rank list	Photo code	Tea maker	Applied tea whisk	Japanese vote number	Chinese vote number	Total vote number
1st	No.1	Expert	Yabunouchi	6	3	9
2nd	No.7	Expert	Kankyan	6	1	1
3rd	No.12	Expert	Ensyu	4	2	6
4th	No.9	Non-expert	Kankyan	3	1	4
5th	No.8	Beginner	Kankyan	2	1	3
6th	No.5	Beginner	Yabunouchi	2	2	4
7th	No.13	Beginner	Ensyu	4	1	5
8th	No.4	Beginner	Yabunouchi	2	3	5
9th	No.10	Beginner	Kankyan	3	1	4
10th	No.3	Non-expert	Yabunouchi	2	2	4
11th	No.2	Beginner	Yabunouchi	3	2	5
12th	No.14	Non-expert	Ensyu	3	1	4
13th	No.15	Beginner	Ensyu	2	3	5
14th	No.11	Beginner	Ensyu	3	4	7
15th	No.6	Beginner	Kankyan	6	4	10

### 3.3 Easy Identification of Expert's Tea During Visual Evaluation

Based on the counting results of ranked photos, it is obvious to find that except top 3 and bottom 3 groups other tea photos identification is very difficult for subjects evaluation, therefore, middle rank tea photos showed variable votes. However, expert could master skillful technique to make tea by any kind of tea whisk and produce richer and smaller bubbles on tea surface. So expert's tea has easy identification with obvious characteristics, which help for visual evaluation.

### 3.4 The Influence of Bubble Size and Distribution for Visual Evaluation

As showed in Fig. 5, vote people number for ranked tea photos were listed clearly. It is worthwhile to note that top 3 and bottom 3 ranked photos were voted with nearly over half of total people, however vote number for the middle rank tea photos is less and lack of persuasion. That is to say, people subjects were easily to identify the best and worst but difficult to judge the middle rank. As previous discussion, bubble size in ranked tea photos upper ones had smaller bubble on tea surface, which obtained better confirmation from evaluation subjects. It demonstrated that when bubble fineness reaches to a certain limit could support beauty assessments directly. In other words, expert is able to make rich small bubbles on tea surface stable, so evaluation subjects could easily identify expert’s tea. However, non-expert could not keep stable tea making technique, and beginner do not understand the bubble making technique and its important points. So during visual evaluation, their teas product photos are difficult for identification.

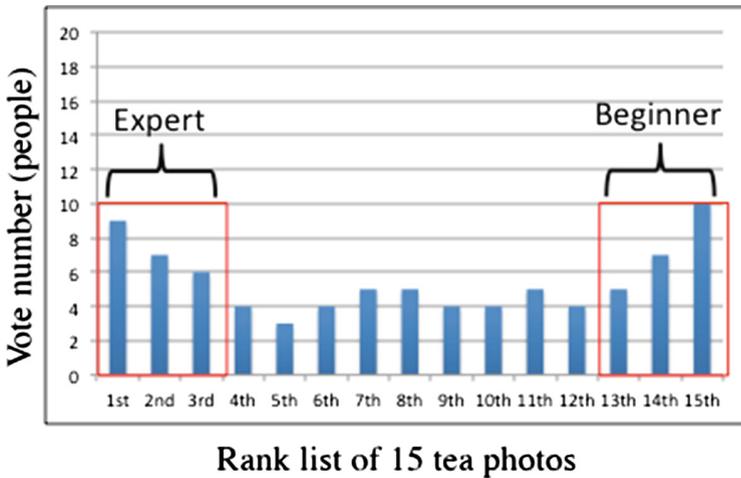


Fig. 5. The number of vote people for corresponding rank listed photo

## 4 Conclusions

In this paper, process analysis on technique of “The way of tea” was investigated by visual analysis on expert, non-expert and beginner’ tea work. It is found that expert’s tea was easier to be ranked in the top with obvious tea bubble characteristic. Furthermore, tea whisk’s behavior was also clarified that Yabunouchi could produce more fitness bubble and obtained more people’s favor. In a word, when bubble fineness reaches to a certain limit tea work was easier to be evaluated and confirmed directly.

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