Motivation Vector and A Water-Flowing Rule
Dinh Thanh Le
Advanced Wireless Communication research Center
The University of Electro-Communications, Tokyo, JAPAN

Abstract
This article presents author's experience in research and daily life with a key point of motivation. A rule called "Water-flowing" applying for foreigners traveling in Japan with limited Japanese language is also introduced. Experiential tests show that the rule would be much correct in tourism places.

1. Introduction
Studying oversea, in developed countries with high quality education systems, would be an intense dream of many students, especially those who are from developing countries. This is because going aboard is an opportunity not only for mastering knowledge but also to open mind toward a bright future. By studying under supervision of leading professors with advanced facilities and techniques, a student would reach to a great success. However, in new environments, foreign students might also face to a number of challenging difficulties such as language, culture, or pressure on work. These would, sometimes or somehow, affect seriously on students' education and daily life. In such case, one's motivation is a tremendously important factor that directs them toward the successful way.

In this article, I will share my experience in studying and daily life during a PhD program Japan with limited Japanese ability. During the whole journey, the motivation that I owned is a key point of success. Furthermore, a rule called “water-flowing”, found when I traveled in Japan, would be an interest point to share with foreign students.

My name is Dinh Thanh Le, a Vietnamese student studying in Japan. I had completed undergraduate and master courses in an university in Vietnam in 2006 and 2008 respectively. Soon after, I won a scholarship, and came to Japan in March 2009 for a doctoral course in The University of Electro-Communications, Tokyo. Recently, I have finished the PhD program and is just offered a research position in National Institute of Information and Communication Technology (NICT), Japan.

2. Motivation Vector
As normal as a life, one’s motivation also has up and down times. When it is up, people have a confident feeling and happiness in working or studying. However, when it is down, they may easily get stuck, and lose the confidence. Because of the changeable feature of motivation, I always consider it as a vector, naturally called as "motivation vector". The important point in our work or studying is to maintain motivation vector toward the positive direction.

2.1. Starting point
Depending on each person, their motivation may come from different aspects. In my case, a spirit of getting out of poverty, and a dream of being a scientist would be the two main factors building up my motivation on work and study.

I was born and brought up in a poor village, where, two decades ago, even a black and white TV was such a luxurious thing and almost out of dream for us. In fact, this condition had a great effect on me, creating a strong motivation and urging me to study harder and harcer. I believe that being a well-educated and skillful person would be a right way to get out of poverty.

Moreover, coming to Japan for a doctoral course, I am realizing my dream of being a scientist for not only discovering new knowledge but also transferring that knowledge to students. With an unyielding hope of success, I am enjoying doing research, and would try to do as much as I can.

2.2. Up and Down
For a long time, it is really hard to keep motivation always positive. Even for the most motivated persons, there are always times that the motivation vector goes up and down. Therefore, it is very important to maintain motivation vector toward a positive direction.

The up time
For PhD students, the time motivation vector goes up is obviously when we get good research results, going for conferences, receiving notification of accepted papers, passing PhD defense, or if lucky, receiving awards. These times are all very special because we can reach to ever a little success which makes our dreams come true.

I have many things to share for the up time of motivation of mine, but the most things I would like to share with PhD students, as I was being, is the time we go for conferences. No matter how big or small, local or international conferences, that would be the perfect chance to learn something new from other presentations, to discuss with leading professors in our major, and to make new connections with people in our fields. Being shy or hesitated to question in a conference would not be the right way of a motivated person. When I attended the IEICE society conference in 2009 in Osaka, Prof. Yoshio Karasawa - my supervisor - told me one thing that I still remember clearly. It is that if you want people giving comments
Fig. 1 Meeting Prof. Christos Christodoulou (center) in 2011 IEEE APS symposium

on your research, a good way is to discuss with them about their research first. That would be a very interesting way to exchange research ideas, and to make new connections.

I would love to mention here the time I went to the 2011 IEEE International Symposium on Antennas and Propagation and USNC/URSI National Radio Science Meeting, held in July, 2011, Spokane, Washington. Coming to the conference, and attending the welcome drink, I tried to make new friends, and introduced my research to them. At that time, I met Prof. Christos Christodoulou who currently is a professor in University of New Mexico, USA. We had some interesting discussions about cognitive radio antennas while drinking beers. Since then, I still keep in touch with him. We just met each other recently in the EuCAP 2012 conference, having some technical discussions and enjoying a view of Prague's most famous landmark together. That would be a great opportunity to make a new connection motivating the dream of being a scientist.

The down time

The down time occurs when we face to big difficulties. Motivation vector might be changed to the negative direction. People would be worried or sometimes lose confidence and get stressful. At that time, optimistic would be an important characteristic. We should keep our motivation strong and positive, and step by step trying to overcome the difficulties.

During my PhD program, there are also many times motivations getting down such as when I received notification of a rejected paper or homesick. However, the most serious time is the days after 11th Mar. 2011 when a huge earthquake happened, following by tsunami and nuclear plant disasters in Fukushima. At that time, many friends went back home, and I received calls after calls from parents. My motivation on work and study came to floor, replaced by a worried and uncertain feeling.

Fortunately, I had been learned a big lesson from my professor at that time. Three days after the earthquake, I came to university and saw that my supervisor, a typical Japanese, stills worked in his laboratory, even harder and harder despite of earthquake, tsunami,

Fig. 2 Graduation day with Prof. Karasawa and my wife

nuclear meltdown, electric power cut off or so on. His image had a great effect on me, dispelling fears and worries, changing my motivation vector up and strong. I soon realized that a motivated scientist needs not only hard-working but also the brave characteristics.

After three years studying, I have successfully completed a PhD program. The knowledge, experience, and skills that I have gained during my doctoral course under Prof. Karasawa's guidance are invaluable in my professional work. On this occasion, I would like to express my sincerest respect and deepest gratitude to him for his continuous guidance and encouragement. They have been critical factors for me to open the door into the real science garden of the world. Indeed, it would be my greatest honor and privilege working under supervision of such a prominent scientist.

3. Water-flowing Rule

Living in Japan during a PhD course, I have found some interesting things, not only in research but also in daily life. In this part, I will share a funny rule named “water-flowing”, applicable for people with limited Japanese language traveling in Japan.

3.1. Basic idea

The “water-flowing” rule suggests a simple way to find a famous place without asking local people or reading difficult kanji letters. The basic idea comes from: the fact that water starts at high points and begins to flow down to lower points. As the water flows down, it may pick up more water from other small streams. These streams may slowly join together to form a larger stream or river. Small rivers and streams may join together to become larger rivers. Eventually all this water from rivers and streams will run into the ocean or an inland body of water like a lake [1]. Figure 3 shows the water streams with numbers indicating how small or large each stream is [2]. Let consider the destination (a famous place) as the ocean or a lake, the majority of people coming to the place as a river, and an individual as a small water stream, the simple way for a tourist to find the famous place is to follow the majority.
3.2. Rule and Condition

In the first year in Japan, when traveling to some famous places such as Osaka Castle, Kyoto Kinkakuji Temple, I had a difficulty to communicate with local people to ask for help, or to read direction boards with full Kanji letters due to my limited Japanese ability. I had to help myself, and that was the time I found this interesting rule.

The water-flowing rule to find a famous place can be explained as

_Nearby a famous place, one does not have to ask local people for direction to get there, but just to follow the majority._

The condition to apply this rule is there must be a majority stream, and the destination should be a famous place or at least the place where a number of people are heading for, such as fireworks (hanabi), parks with special events like flower viewing (hanami), or so on.

In general, people need to go there by bus or trains. Therefore, a good point to find the majority is to start from stations. A crowded train heading for the place should be a reliable signal to find the majority. There are also some other signals to recognize a stream depending on specified destinations. For example, if one is going to a place where fireworks are conducted, they should see Japanese people dressing kimono or yukata clothes as shown in Fig. 4. These people may have not formed a large stream but would be an expected signal to a main stream.

3.3. Experiential Tests

The rule has been found from the reality, and tested in several times. The tests have been carried in various places, including Tokyo Tower, Osaka Castle, Kinkakuji and Ginkakuji Temples in Kyoto, Eastern Great Temple (Todai-ji) in Nara prefecture, and some fireworks places in Tokyo and Osaka. Most of the tests show the correctness of the rule if the condition is fulfilled. However, there are also times I got lost when the main streams were not big enough. In these cases, the better way is to try to speak Japanese as much as we can, or another way, we can use an iPhone with the maps application for sure.

4. Conclusion

Experience in research and daily life during a three-year PhD course in Japan of mine are presented in this article. For research, maintaining motivation vector up and strong would be a key point of success. For daily life, a “water-flowing” rule, applicable for foreign students with limited Japanese ability traveling in Japan has been introduced. The rule is experimentally tested in several famous places to verify the correctness.

Personally, I believe that the achievements of mine are very humbly, and the way of advancing my professional is still long and steep. But I will try my best for every step of the journey. To conclude this article, I would like to quote a sentence of Douglas Adams (1952-2001), a famous British comic writer: “I may not have gone where I intended to go, but I think I have ended up where I intended to be.”[3].

5. Acknowledgement

I would like to express my sincerest gratitude to IEICE Communication Society Global Newsletter for offering me a great opportunity to share my experience in research and daily life during a PhD course.

6. Reference