Changes of Motivational Intensity in Learning a Foreign Language: A Study of University Students in Japan

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Introduction

In the past decades, a great deal of research on language-learning motivation has been conducted since motivation has been considered as one of the main determinants that could have an effect on the success of second or foreign language learning. According to Gardner and Lambert (1972), motivation could surpass aptitude which is widely accepted as one of the most important factors in language learning success. In spite of the increasing volume of research on motivation in second and foreign language learning, a very limited amount of research focusing on the temporal aspect of L2 (second language) motivation has been conducted so far. Dörnyei (2001: 82) pointed out:

Although most practitioners with sufficient classroom experience are aware of the fact that during the course of such a lengthy process student motivation does not remain constant, hardly any research has been done on analysing the dynamic of L2 motivational change and identifying typical sequential patterns and developmental aspect.

Focusing on the temporal dimension of L2 motivation, Williams and Burden (1997) proposed the model which had three stages of the motivational process along a continuum: reasons for doing something, deciding to do something, and sustaining the effort, or persisting. In this model, the first two stages involve initiating motivation

whereas the last stage is related to sustaining motivation. The authors argue that these two aspects of motivation should be separated. In a similar way, Dörnyei and Ottó (1998) introduced a process-oriented model of L2 motivation which synthesises a number of different lines of research in a unified framework, thereby construing a non-reductionist, comprehensive model. The model contains two main dimensions: *Action Sequence* and *Motivational Influences*. According to Dörnyei (2001), the former represents the behavioural process whereby initial wishes and hopes are transformed into *goals*, then into *intentions*, leading eventually to action and, hopefully, to the *accomplishment of the goals*, after which the process is submitted to final *evaluation*. The latter includes the *energy sources* and *motivational forces* that underlie and fuel the behavioural process.

Ushioda (2001) reported on a qualitative research conducted among 20 Irish college undergraduates learning French, focusing on the qualitative content of language learners' motivational thinking. According to Ushioda (2001: 117), one of the most important features to emerge from the analysis of subjects' reported motivation was the varying temporal frame of reference shaping their thinking. In the report, she proposed the diagram which offers a schematic representation of how learner conceptions of motivation might be defined within a theoretical framework of varying temporal perspectives, which attempts to decouple the concept of motivation as a multidimensional and multidirectional phenomenon from the concept of language learning as a goal-directed phenomenon. Based on the findings, Ushioda (*ibid*) suggested that 'goal-orientation may not necessarily be perceived by language learners to be the defining rationale of their motivation but a potentially evolving dimension which needs time to develop and assume motivational importance and clarity'.

Hayashi (2005) examined the aspects of motivational changes of Japanese university students (481 college undergraduates) over time as they progress from junior high school through university. The study explored their motivational development by identifying different groups of students with different patterns of motivational flux, through the use of cluster analysis, drawing on self-determination theory (SDT) as the framework of reference and analysis. In the study, the author reported that the motivation of the students gradually declined from junior high school to university. Cluster analysis found four patterns of motivational change with regard to the developmental process of the

students' intensity of will to learn English from junior high school to university. These transitional patterns were named "high-high" (the intensity of motivation was high over time), "low-low" (it was low over time), "high-low" (it was high at the beginning but became low thereafter), and "low-high" (it was low at first but went up after that). Analysing the reasons for the ups and downs of the motivational intensity, the author (2005: 14 -15) pointed out that 'Internalization, working complimentarily with intrinsic motivation, emerged as a key factor separating those on the success-track from those on the failure-track of motivational development'.

The findings and new information on L2 learning motivation provided by those studies from temporal and developmental perspectives suggest that L2 learning motivation could change dynamically and develop over time, which may call for new research approaches to explore the dynamically changing nature of L2 motivation from temporal and developmental viewpoints.

Considering the need for research on L2 learning motivation from developmental aspects, I seek to examine how the Japanese students' motivation changed over time in this study. My study, however, does not necessarily attempt to examine the general nature of the L2 learners' motivational change over time as in the case of most researchers so far. Rather, the study focuses on 'motivated' learners in comparison with 'less motivated' learners with reference to their motivational change over time.

The aim of this study is to examine how the Japanese university students' intensity of motivation changed from junior high school to university, how the intensity of motivation of 'motivated' and 'less motivated' students at university differed over time, and how the motivational intensity of 'motivated' students at university developed before university. In addition, this research was conducted as a part of my PhD research in which both quantitative and qualitative approaches were employed for the data analysis; quantitative analysis of questionnaire data is followed by qualitative analysis of interview data. Consequently, another aim of this study was to find further research questions which the qualitative analysis focused on.

Respondents

The respondents were 350 first to fourth year Japanese university students (first year: 261; second year: 18; third year: 52; and forth year: 19)¹ from four faculties: education (165), social and information (41), engineering (67) and medicine (77) at a coeducational university (male: 148; female: 202). They studied English as a compulsory subject in their first and second year of university. 52 of the respondents from the faculty of Education read English.

Identifying 'motivated' and 'less motivated' learners

'Motivated' learners in the study were identified by the questionnaire, more specifically, the respondents' perceived intensity of will or willingness to learn English (hereafter referred to as Perceived Intensity of Motivation). In the questionnaire the respondents were asked to rate to what extent they perceive they are (or were) willing to learn English on a five-point Likart scale ranging from 1 = 'not at all' to 5 = 'very much' for each period of junior high school, high school, and university (the present). In the study, the learners who rated 4 = 'quite a lot' or 5 = 'very much' are described as 'motivated' learners and those who rated 3 = 'so-so', 2 = 'not really', or 1 = 'not at all' are identified as 'less motivated' learners. Of the 350 participants for the questionnaire, 116 were identified as 'motivated' learners of English at university, while 234 were 'less motivated' learners.

In this study, motivation of the learners identified as 'motivated' or 'less motivated' represent only one aspect of a multi-dimensional concept of motivation, that is, the respondents' perceived intensity of motivation. Moreover, my use of the term 'motivated' in this study does not necessarily make claims about the 'reality' of the respondents' motivational history since I have no direct access to such evidence. Rather, these descriptions simply represent the respondents' self-reports on their willingness to learn English at different periods of time such as junior high school, high school, or university.

The Japanese word 'YARUKI', which Japanese prefer to use to express their will or willingness to do something, was used in the questionnaire to assess Perceived Intensity of Motivation; the respondents were asked to rate to what extent they thought they have

^{1 ()} indicates the number of the respondents

(or had) 'YARUKI' to learn English. Although 'YARUKI' is often referred to as a term equivalent to 'motivation', it may not represent exactly the same concept as 'motivation'. 'YARUKI' refers not only to will or willingness to do something but also to the enthusiasm for doing something. It could refer to 'volition', 'morale', 'enthusiasm', 'drive' and so on, depending on the context. Like 'motivation', 'YARUKI' is thus a multi-faceted concept including an aspect of affect and cognition. 'YARUKI', however, does not always refer to the case in which inner forces such as volition, drives or emotional states such as 'enthusiasm' or 'eagerness' are transformed into action. For example, one of the respondents described his motivational state by using 'YARUKI' as 'I had 'YARUKI' at that time, but it could not connect to an action'; he reflected that he had 'YARUKI' to learn English, but did not study it very much. Therefore, it may be more appropriate for my study to say that 'motivated' learners in the study represent those who felt they had 'YARUKI' to learn English, rather than the motivation to learn English.

Results

1. Correlations between Perceived Intensity of Motivation and other variables

As Perceived Intensity of Motivation in the study is based on the participants' subjective self-assessment of their will or willingness to learn English, it does not always indicate to what extent they are (or were) really or 'objectively' willing to learn English. It is, however, noteworthy that Perceived Intensity of Motivation was significantly correlated with other variables gained from the questionnaire. Those variables examined in the study were:

- The amount of time spent studying a week at university
- The amount of time spent studying English a week at university
- The amount of time spent studying English voluntarily a week at university
- Frequency of learning English a week at junior high school, high school, and university
- Liking for English at junior high school, high school, and university
- Self-reported grade for English at junior high school, high school, and university

Table 1 presents those correlations between Perceived Intensity of Motivation for a period of university and other variables.

Table 1: Correlations of Perceived Intensity of Motivation at university with other variables

Other valuables	Peason's correlation coefficient
The amount of time spent studying a week at university	.301** (N = 329)
The amount of time spent studying English a week at university	.447** (N = 330)
The amount of time spent studying English voluntarily a week at university	.348** (N = 332)
Frequency of learning English a week at university	.596** (N = 337)
Liking for English at university	.628** (N = 337)
Self-reported grade for English at university	.303** (N = 332)

^{**} significant at 1 % level

Accordingly, the respondents identified as 'motivated' at university in the study is assumed to be profiled as those who were likely to spend more time on studying in general and studying English a week, learn English more frequently a week, have a greater liking for learning English, and gain a better grade than 'less motivated' learners.

2. Change of Perceived Intensity of Motivation

Table 2 presents the mean scores of Perceived Intensity of Motivation of the whole group for each period: junior high school, high school and university:

Table 2: Mean scores of Perceived Intensity of Motivation of the whole group for a period of junior high school, high school, and university

Period	Mean scores (S.D.)		
Junior high school	3.89 (1.02) (N = 341)		
High school	3.47 (1.05) (N = 341)		
University	2.96 (1.09) (N = 340)		

The table indicates that the mean scores of Perceived Intensity of Motivation decreased by degrees from junior high school to university. As a result, the respondents were likely to be less motivated to learn English at university than at junior high school and high school.

The frequency and percentage of Perceived Intensity of Motivation for each value from junior high school to university were examined, which could avoid the pitfalls of mean scores from Likert Scales².

Table 3: The number and percentage of the respondents for each value of Perceived Intensity of Motivation from junior high school to university

Period	Value				Total	
	1	2	3	4	5	
Junior high school	10	25	63	137	106	341
-	(2.9%)	(7.3%)	(18.5%)	(40.2%)	(31.1%)	(100%)
High school	12	59	77	140	53	341
_	(3.5%)	(17.3%)	(22.6%)	(41.1%)	(15.5%)	(100%)
University	28	99	97	90	26	340
-	(8.2%)	(29.1%)	(28.5%)	(26.5%)	(7.6%)	(100%)

As seen from Table 3, the number of the respondents defined as 'motivated' learners who rated 4 = 'quite a lot' or 5 = 'very much' decreased gradually from junior high school to university, while the number of the respondents profiled as 'less motivated' learners who answered 1 = 'not at all', 2 = 'not really', and 3 = 'so-so' increased by degrees. The number of 'motivated' learners were 243 (71.35%) of the 341 respondents at junior high school, 193 (56. 6%) of the 341 respondents at high school, and 116 (34.1%) of the 340 respondents at university. It is important to note that the number of the respondents who rated 5, in other words, the respondents who could be described as 'highly motivated' declined sharply from junior high school to university; the number reduced by half every period: 106 at junior high school, 53 at high school, and 26 at university. From the results shown in Table 2 and Table 3, it is clear that the respondents were generally least motivated to learn English at university since they had started to learn English at junior high school.

² With regard to the analysis of the Likert scales scores, Clason & Dormody (1994) point out that ignoring the discrete nature of the response can lead to inferential errors. Mean score does not always reflect the difference of the proportions of the responses. For example, as for the two groups who have mean score of 3.00 on five points Likert scales, the response of one of the group may be twenty percent for each value, while that of the other group may be fifty percent for 1 and 5. In spite of the same mean scores, it seems difficult to claim these populations are similar.

Mean scores of Perceived Intensity of Motivation of the whole group for each year from the first year of junior high school up to the present are shown in Table 4. The number of respondents who were qualified to answer the questionnaire for the first year of university was 346, the second year 88, the third year 70, and the fourth year 15. The scores for the fourth year, however, were excluded from the table because the data were assumed to be inappropriate for the analysis; the number of the respondents was only 15, much smaller than that of the others and all of them were final year students reading English who were assumed to be more likely to be motivated to learn English than other respondents, which suggests that this peculiarity of the group could have an influence on the result.

Table 4: Mean scores of Perceived Intensity of Motivation for each year from the first year of junior high school up to the present

Year	Mean scores (S. D)	N	
J 1	3.92 (1.12)	348	
J 2	3.74 (1.13)	348	
J 3	3.95 (1.01)	348	
H 1	3.38 (1.13)	348	
H 2	3.24 (1.18)	347	
H 3	3.72 (1.14)	347	
U 1	2.91 (1.09)	347	
U 2	3.32 (1.18)	88	
U 3	3.25 (1.32)	70	

J = junior high school H = high school U = university

The result also indicates that broadly speaking, the intensity of motivation to learn English decreases gradually from junior high school to university. It was highest in the third year of junior high (3.95) and was lowest in the first year of university (2.91). At the second and third year of university, the scores were relatively low as well as the first year in comparison with those of junior high school and high school. The result also shows that Perceived Intensity of Motivation was relatively high in the first year of junior high school and high school, but went down in the second year, and then went up again in the third year: the V-shaped development. This increase in the third year might be due to the entrance examination which most of the students usually have to prepare for. Such external pressure could make the students extrinsically motivated to a great extent. This

motivational change, however, is merely an assumption, which should be examined in the qualitative analysis.

3. Motivation of 'motivated' and 'less motivated' learners before university

The study revealed that although Perceived Intensity of Motivation of the whole group gradually decreased from junior high school to university, 116 (34.1%) of the 340 respondents were still motivated to learn English at university. This result might raise some questions. What was these motivated learners' motivation like before university? Were they as motivated before university or did they become motivated after they entered university? I thus attempted to examine whether there are differences between 'motivated' learners and 'less motivated' learners in Perceived Intensity of Motivation before university.

In order to examine a difference between 'motivated' and 'less motivated' learners in Perceived Intensity of Motivation over time, the T-test was then calculated. Table 5 shows the mean scores of Perceived Intensity of Motivation for junior high school, high school, and university and the T-test results:

Table 5: Mean scores of Perceived Intensity of Motivation of 'motivated' and 'less motivated' learners for junior high school, high school, and university and the T-test results

Period	Mean sc	T-test	
	'Motivated' (N = 116)	'Less motivated' (N = 224)	
Junior high	4.09 (1.00)	3.79 (1.02)	t(338) = 2.55, p < .05
High school	3.84 (0.97)	3.29 (1.06)	t (338) = 4.86, p < .01
University	4.22 (0.49)	2.30 (0.68)	t(338) = 31.98, p<.01

Table 5 shows that mean scores of learners identified as 'motivated' to learn English at university were higher than those of 'less motivated' learners at junior high school and high school, indicating that 'motivated' learners at university were likely to be more motivated to learn English at junior high school and high school than the learners profiled as 'less motivated' to learn English at university. The T-test results confirm significant differences of the mean scores of Perceived Intensity of Motivation between 'motivated'

and 'less motivated' learners at junior high school (significant at the 5 % level) and at high school (significant at the 1 % level). In order to examine more detailed differences between these two groups in changes of Perceived Intensity of Motivation, the T-test was calculated with regard to each year of junior high school, high school, and university. Table 6 presents the mean scores of Perceived Intensity of Motivation of 'motivated' and 'less motivated' learners from the first year of junior high school to the third year of university and the T-test results:

Table 6: The mean scores of Perceived Intensity of Motivation of 'motivated' and 'less motivated' learners from the first year of junior high school to the third year of university and the T-test results

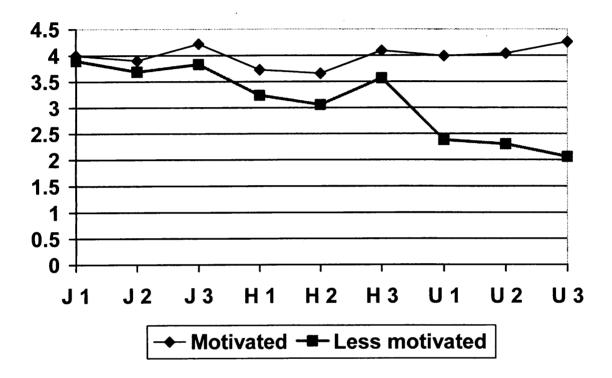
Year	Mean scor	T-test	
	'Motivated'	'Less motivated'	
J 1	4.00 (1.09) (<i>N</i> = 116)	3.90 (1.14) (<i>N</i> = 224)	t (338) = 0.80, p = 0.45
J 2	3.90 (1.17) (<i>N</i> = 116)	3.69 (1.12) (<i>N</i> =224)	t (338) = 1.61, p = 0.11
J 3	4.22 (0.99) (<i>N</i> = 116)	3.83(1.00)(N=224)	t(338) = 3.29, p < 0.01
H 1	3.73 (1.10) (<i>N</i> = 116)	3.24(1.11)(N=224)	t(338) = 3.92, p < 0.01
H 2	3.66 (1.09) (N = 116)	3.06(1.18)(N=223)	t(337) = 4.54, p < 0.01
Н3	4.09 (1.01) (<i>N</i> = 116)	3.57 (1.16) (N = 223)	t(337) = 4.31, p < 0.01
U 1	3.99 (0.82) (N = 116)	2.38(0.78)(N=224)	t(338) = 17.60, p < 0.01
U 2	4.04(0.74)(N=52)	2.30 (0.92) (N = 36)	t(86) = 9.40, p < 0.01
U 3	4.26 (0.64) (N = 38)	2.06(0.84)(N=32)	t(68) = 12.40, p < 0.01

J = junior high school H = high school U = university

The table indicates that the mean scores of Perceived Intensity of Motivation of the learners who were identified as 'motivated' to learn English at university were higher in each of the year of junior high school, high school, and university than those identified as 'less motivated' to learn English at university, which suggests that 'motivated' learners at university were more motivated to learn English even before they entered university than 'less motivated' learners at university. The T-test results, however, did not confirm significant differences between these two groups at the first and second year of junior high school, although the results confirmed significant differences between them (significant at the 1 % level) at all the other years of junior high school, high school, and university. Chart 1 also presents the mean scores of Perceived Intensity of Motivation of

'motivated' and 'less motivated' learners from the first year of junior high school to the third year of university.

Chart 1: The mean scores of Perceived Intensity of Motivation of 'motivated' and 'less motivated' learners from the first year of junior high school to the third year of university



The chart clearly illustrates:

- 'Motivated' learners' intensity of motivation remained constantly high throughout, whilst 'less motivated' learners' motivation continued to decrease over time
- The motivational change of both groups was quite similar before university
- The gap between the two groups began to widen in the third year of junior high school
- The gap gradually became larger during the high school period
- The gap widened dramatically in the first year of university and continued to widen thereafter

4. Patterns of motivational development of 'motivated' learners

Previous study revealed that learners identified as 'motivated' at university were more likely to be motivated to learn English even before university than those profiled as 'less motivated' at university. Does this, however, apply to all of the 'motivated' learners? Is there any variation between them with regard to motivational change over time? I thus attempted to examine how 'motivated' learners' motivation has changed or developed over time; more specifically, to explore what patterns of motivational development can be found among them.

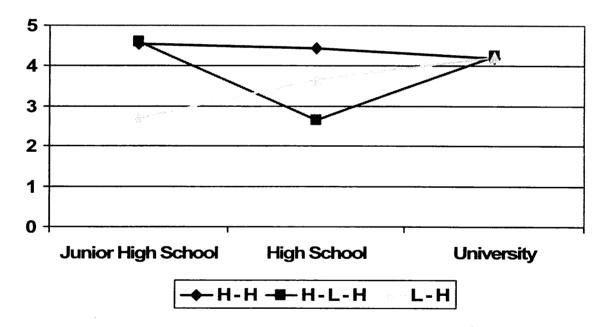
For 116 respondents profiled as 'motivated' to learn English at university, a combination of Perceived Intensity of Motivation for each period of junior high school, high school, and university was carefully examined. As a result, 28 different patterns of change of Perceived Intensity of Motivation over time were found. In order to classify these patterns into clusters on the basis of similarities as to their motivational change, cluster analysis was adopted and two methods of hierarchical cluster analysis were used: Average Linkage (Between Groups) and Ward Method were performed in an exploratory way with SPSS as to Perceived Intensity of Motivation for each period of junior high school, high school, and university. Through the careful examination of Dendrogram and relationship between clusters and their cases, it was concluded that the most appropriate interpretation was obtained with a three-cluster solution, employing Ward's clustering method with squared Euclidean. Table 7 indicates the number of the participants belonging to each cluster and mean scores of Perceived Intensity of Motivation for each cluster as to junior high school, high school, and university. For the purpose of examining group differences with these clusters, one-way analysis of variance (ANOVA) was conducted. As a result, it was confirmed that there were significant differences among these clusters in junior high and high school. (Junior high school: F(2, 113) =117.79, p < .001; High school: F(2, 113) = 71.29, p < .001).

Table 7: Mean scores of Perceived Intensity of Motivation for Cluster 1, 2, and 3

	Cluster 1 $(N = 60)$	Cluster 2 $(N=26)$	Cluster 3 $(N=30)$
Junior high school	4.55	4.61	2.70
High school	4.45	2.65	3.66
University	4.20	4.26	4.23

Cluster 1 indicates that Perceived Intensity of Motivation has always been high since junior high school up to the present. This cluster was thus labeled a 'High-High' or 'H-H' group. Cluster 2 shows that Perceived Intensity of Motivation was high at junior high school, but low at high school, and high again at university. This cluster was, therefore, labeled a 'High-Low-High' or 'H-L-H' group. Perceived Intensity of Motivation in Cluster 3 was low at junior high school, but thereafter increased gradually up to university. Accordingly, this cluster was labeled a 'Low-High' or 'L-H' group. The respondents represented as 'motivated' learners of English at university could thus be divided into three main groups: 'High-High', 'High-Low-High', and 'Low-High' groups. Chart 2 indicates the time-wise change of Motivational Intensity for these three groups:

Chart 2: Time-wise change of Perceived Intensity of Motivation for three groups of learners identified as 'motivated' to learn English at university



Conclusion

In this study, I have attempted to examine change in the respondents' Perceived Intensity of Motivation, that is, their subjective self-assessment of the extent of their willingness to learn English. Perceived Intensity of Motivation was significantly correlated with other variables such as the amount of time spent studying English, frequency of learning English, liking for English, and the self-reported grade for English, which suggested that the learners identified by Perceived Intensity of Motivation as

'motivated' to learn English at university were more likely to have positive involvement in learning English than 'less motivated' learners.

The results revealed that the respondents' willingness to learn English declined gradually from junior high school to university, similar to the study of Hayashi (2005). Although more than 70 % of the respondents were identified by Perceived Intensity of Motivation as 'motivated' learners to learn English at junior high school, 'motivated' learners declined gradually thereafter and only one third of the respondents were 'motivated' at university. Further examinations revealed that learners identified as 'motivated' at university were likely to be more motivated to learn English at junior high school and high school than those profiled as 'less motivated' at university, which suggests that the learners' motivation at university could be influenced by their previous motivational experiences. The gap between these 'motivated' and 'less motivated' learners began to widen in the third year of junior high school, became larger gradually during the high school period, and widened greatly at university. The final year of junior high school and the years of high school seem to be of vital importance for the development of English learning motivation thereafter. Moreover, the first year of university seems to be a crucial period in the developmental process of L2 learning motivation in a Japanese educational context. It may thus be necessary to examine the learners' motivational experiences in the qualitative analysis with great attention to these years.

Examinations of motivational intensity before university with regard to 'motivated' learners revealed that there was a variation among them in terms of their motivational change over time. That is, not all of the 'motivated' learners were as motivated to learn English before university. 'Motivated' learners could be classified into three groups with regard to patterns of their motivational development over time. Although 60 (51.7%) of the 116 'motivated' learners at university had always been motivated to learn English since junior high school up to the present, what is called a 'High-High' group, the motivational development of the other 56 (48.3%) was quite different from them; the motivation of 26 of the 56 was high at junior high school, but down at high school, and up again at university, the so-called 'High-Low-High' group, and the motivation of the remaining 30 of the 56 was low at the beginning and increased gradually thereafter to the

high level at university, which was labelled a 'Low-High' group. These findings suggest that each group of learners could have had different learning experiences and thereby different motivational experiences as well. Accordingly, qualitative analysis of 'motivated' learners should be made group by group rather than as a whole group and each group should have different focal points of analysis according to the developmental process of motivational intensity of each group. Further research questions which the qualitative analysis focuses on are:

1. 'High-High' group

- What factors could make their motivation high at the early stage of learning English?
- What factors could keep their motivation high and stable from the beginning of learning English to the present?

2. 'High-Low-High' group

- What factors could make their motivation decrease at high school in spite of their high degree of motivation at junior high school?
- What factors could make their motivation increase thereafter?

3. 'Low-High' group

- What factors could make their motivation low at the early stage of learning English?
- What factors could make their motivation increase continuously in spite of their low degree of motivation at the early stage of learning English?

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