

Factors impacting on teacher cognition and teachers' approaches to language teaching in Japanese high schools

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Abstract

This paper investigates cognitive factors that impact and enable implementation of communicative approaches to language teaching, CALT, by public high school teachers in Osaka, Japan. The experiences, beliefs and knowledge of 46 teachers were investigated using a questionnaire. Of those, 4 participated in semi-structured interviews, as did 3 student teachers. Through this mixed-methods approach, the paper triangulates qualitative and quantitative data. The results showed that early experiences as learners affect the development of values and beliefs about approaches to language teaching. English teachers in Osaka are increasingly likely to have experienced CALT themselves as learners, and to be somewhat knowledgeable about such approaches. The findings also revealed that teachers hold increasingly positive attitudes towards implementing appropriate amounts of CALT. However, they apply CALT cautiously, due to a range of concerns about proximate and systemic issues. The way teachers respond to these concerns was affected by beliefs they hold, resulting from their experiences as learners, about language teaching. The results suggested two ways in which CALT implementation could be enhanced. The first is reform the university exam to assess communicative language use. The second is for both learners and teachers to be given more opportunities for skills practice, to develop greater meta-cognitive awareness and encourage developments in language or teaching skills. Finally, the results show demographic trends and changes in education policy in Osaka prefecture that will affect the implementation of communicative approaches to language teaching, which could have implications outside this context and provide avenues for future research.

Keywords: cognition, communicative approaches to language teaching, senior high school, Japan

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Introduction

Communicative English skills are essential in many fields, yet not all Asian countries have successfully promoted them. Japan's Ministry of Education, Culture, Sports, Science and Technology, MEXT, is aware of the poor communicative skills of students. Although MEXT never promotes specific communicative approaches to language teaching, CALT, it claims, "the development of students' proficiency in English...is crucial for Japan's future...especially in the development of communication skills" (MEXT, 2014, Background to the Reform). However, only 31.9% of high school students in their final year are at target proficiency. Concurrently, Japan's local competitors show gains in desirable communicative skills. It is clear something is amiss.

An emerging area of interest is teacher cognition: the experiences, beliefs and knowledge of teachers. Cognitive factors powerfully influence classroom practice (Mama & Hennessy, 2013; Pajares, 1992), perhaps more than teacher training itself. Nishino describes how experiences Japanese teachers of English, JTEs, had as students may instill beliefs that affect practice. MEXT needs to understand the beliefs, experiences and practices of its JTEs. The purpose of this mixed method study is to examine the implementation of CALT, assess experiences and cognitive factors that may affect how JTEs implement CALT, and finally to look at factors that may help them apply CALT more effectively. Data were collected with a questionnaire and an interview, adapted from Nishino (2008; 2012), Richards and Sato & Kleinsasser among others. In-service teachers were given a questionnaire, and some were interviewed. Student teachers were also interviewed. The study addressed the following research questions:

RQ1: How do JTEs view their own approaches to English teaching?

RQ2: What do JTEs know and believe about communicative approaches to language teaching?

RQ3: What factors do JTEs believe would help them implement CALT in their classrooms more effectively?

Literature Review

Key Concepts

Teacher Cognition

Clark & Peterson first attempted to categorize teachers' thought processes, known now as teacher cognition. Feryok & Kubanyiova, citing Freeman and Walberg, note, "What teachers do in the classroom is a reflection of the rich tapestry of their mental lives". Burns et al., citing Numrich, describe a thematic analysis of the diaries of trainee teachers. This study similarly uses a thematic analysis to identify links between JTEs' experiences as learners and their current cognitive states and practices.

Communicative Approaches to Language Teaching (CALT)

CALT are teaching approaches where communication is essential. Two prominent CALT are Communicative Language Teaching, CLT, and Task Based Language

Teaching, TBLT. Both develop communicative skills through meaning focussed activities using authentic language. Teacher support and activity design help learners self-correct, bringing their attention to grammar in context .

Brandl , citing Doughty & Long identifies 8 principles of CALT:

1. Communicative tasks are the basic unit
2. Learning occurs by doing
3. Learners are exposed to authentic language
4. Learners are given meaningful and comprehensible input
5. Learners work together
6. Grammar instruction occurs through meaning focused activities
7. Teachers give feedback
8. Awareness of the needs and limitations of learners

Communicative Language Teaching, CLT, aims to develop learners' communicative competencies (Hymes, 1972) through meaningful, authentic language use in communicative activities . Task Based Language Teaching, TBLT, maintains CLT's focus on meaning, communication and authentic language use but recasts it in terms of classroom tasks: co-operative group activities that prepare learners to complete real world tasks. However, suitability is not guaranteed for either approach in all contexts. Sato echoed Li (1998) cautioning that in Japan, "there is little or no practical need to use English outside the classroom".

Education Reform in Japan

In the post-war period, the Course of Study showed support for grammar-translation approaches. The National Centre Test, the university entrance exam, still emphasises grammar and translation . However, reforms introduced between the 1980s, when CALT rose in popularity (Kubota, 2010; O'Donnell, 2005), and today (MEXT, 2009; 2013a; 2014; 2016) have all stated that improving communication skills is the main purpose of English education in Japan. Attempts to introduce CALT have struggled. Japanese TOEFL scores rank lowest across Asia. A slim majority of JTEs are now above target proficiency. MEXT describes a national survey of 3,459 public high schools. It found that reforms are having some impact on professional development and JTE proficiency, but none on student proficiency or classroom English use. Local initiatives by Osaka Prefecture BOE, like the SET program, are targeting communication . Additionally, the high school entrance exam system is changing. From 2017 translation will be removed. Listening, reading, writing and speaking rewarded more equally. Furthermore, schools will accept external test scores as part of enrolment decisions. Prospective students in Osaka with a high TOEFL iBT score will be awarded additional points towards their entrance exam.

Challenges Indicated by Previous Research

Teachers' choices in the classroom impact the success of a program more than government policy . Previous research indicates JTEs are favourable towards CALT, but tend not to use them . Uncertainty about either approach is widespread . Investigations of CALT across Asia (Butler, 2011; Littlewood, 2007, 2013a, 2013b) and local studies in Japan (Abe, 2013; Burns & Humphries, 2015; Gorsuch, 2000; Nishino, 2008, 2012; Sakui, 2004) all highlight elements of the dissuasive role played by teacher's own experiences with the education system throughout their lives, which

in turn impact beliefs about CALT. As Borg notes, “Teachers’ cognitions... emerge consistently as a powerful influence on their practices”.

Summary

This study builds on previous research, assessing cognitive factors affecting the implementation of CALT in Osaka. It clarifies the links between JTEs’ experiences as learners and attitudes towards language teaching. Subsequently, it compares and contrasts these attitudes to the JTEs’ current practices. Finally, it examines the beliefs and attitudes of JTEs to consider ways in which the implementation of CALT could be enhanced.

Research Design

A mixed methods methodology was chosen to achieve triangulation , of qualitative and quantitative data, combining their complementary strengths (Tashakkori & Teddlie, 2003). The instruments selected were a questionnaire and a semi- structured interview.

The population of full time high school JTEs is around 24,000 nationally (METI, 2010). This study samples JTEs in Osaka prefecture, of which there were 1473 in 2014 (MEXT, 2014b). For this study, a clear research design was used, based on Creswell & Clark’s (2007) decision trees. Phase 1 collected a large set of quantitative data. Analysis of Phase 1 data provided avenues for exploration in Phase 2, a “follow-up explanations model” (Creswell & Clark, 2007, p.72).

Research Instruments

The research design necessitates two separate instruments for Phases 1 and 2. A structured questionnaire was selected in Phase 1 and a semi-structured interview in Phase 2.

Questionnaire

Written in English and translated into Japanese. Most items were closed-ended, using nominal or interval scales such as Likert and multiple choice. Some open-ended items were included to identify themes for Phase 2. Responses were translated into English for analysis. Response time was around 15 minutes. Online survey platform www.qualtrics.com was selected for its simple yet powerful design. 53 JTEs at 13 schools signed consent forms, and 50 questionnaire responses were received- a response rate of 94.3%. 37 of these responses were complete. 13 were incomplete to varying degrees. Table 1 profiles the respondents.

Attribute	Frequency (n=46)	%
Gender		
Male	25	54
Female	21	46
Min: 1 Max: 2 Mean: 1.46		
Teaching Experience		
1) 1-5 years	11	24
2) 6-10 years	9	20
3) 11-15 years	5	11
4) 16-20 years	3	7
5) 21+ years	18	39
Min: 1 Max: 5 Mean: 3.17		
Experience Living Abroad		
1) None	8	17
2) 1-6 months	13	28
3) 6 months- 1 year	12	26
4) 1-2 years	7	15
5) 2+ years	6	13
Min: 1 Max: 5 Mean: 2.78		
Classes Taught		
1) Reading	46	100
2) Grammar	42	91
3) Writing	32	70
4) Oral Communication	39	85
5) Listening	34	74
Min: 1 Max: 5		

Table 1: Profile of Questionnaire Respondents

Semi Structured Interview

The interviews were 40-60 minutes in length. The questions explored participants' experiences, beliefs and knowledge. The interviews were audio-recorded for later transcription and coding. Interviewees in their early career (1-10 years experience), mid-career (10-20 years experience) and late career (21+ years experience) were sought. 5 JTEs indicated on the questionnaire they would participate. There were 4 early and 1 late career teacher. For scheduling reasons, only 1 could be interviewed. 3 JTEs, one from each career category, were asked personally by me and participated. Three student teachers known personally to me participated. They were all graduates of the 2013 academic year from the same high school. The interviewees are profiled in Table 2.

JTE Interviewees				
Name	Gender	Public High School Teaching Experience	Experience	Additional Classroom Experience
1) O	Male	33 years	5) 20+ years	n/a
2) H	Male	12 years	3) 11-15 years	n/a
3) E	Female	1 year	1) 1-5 years	n/a
4) K	Male	2 years	1) 1-5 years	1.5 years FT/ 4 years PT
Student Teacher Interviewees				
Name	Gender	Grade	Experience Studying Abroad	Classroom Experience
1) A	Female	4th year	9 months, Philippines	Yes- Japan
2) B	Female	4th year	8 months, U.S.	Yes- Japan/ U.S.
3) C	Female	4th year	8 months, U.S.	Yes- Japan/ U.S.

Table 2: Interviewee Profile

Data Analysis

Questionnaire. After Phase 1, incomplete responses were included. Initial analysis revealed only 3 respondents in two mid-career experience categories. Most respondents were early or late career. The (n) of group 11-15 is still 3, and the small size of this sample may have produced anomalous results. Possible causes are suggested in the Discussion. 4 responses were deleted because the respondents answered only one question. Instances of variance in (n) are noted. (n) has a maximum value of 46.

Interviews. Pre and in-service teachers were interviewed. Pre-coding and theme selection then commenced. Codes or “natural units of meaning” were repeatedly refined to identify patterns. Quotes are presented verbatim, however editing decisions were made to preserve the narrative flow upon transcription .

Length of Experience. To examine teacher cognition over time, length of teaching experience was used for comparison. JTE’s were classified as belonging to one of five experience brackets, noted in Table 1 and 2.

Methods of Analysis. For the majority of data, descriptive statistics were produced. Where the sample size was large enough and deemed appropriate, an independent t-test was used.

Recruitment and Ethics. Permission was granted by Osaka Prefecture BOE to recruit participants. All communications were in Japanese to both ensure accurate data and comprehension of participants’ rights. Informed consent was obtained, and participation in Phase 2 solicited. Interviews were single session, face-to-face, conducted in seclusion. The interviewees volunteered to speak in English. Participants

were reminded they could withdraw consent at any time. Identifiable participant data was made anonymous and encrypted. Only I had access to the raw data. Paper documents were stored securely.

Results

Organization. The results have been organized thematically, broadly following the research questions. First, experiences JTEs had as learners were examined. Second, their current practices as teachers were assessed. Third, JTE knowledge and beliefs on CALT were investigated. Finally, influences on CALT use were analysed.

Experiences as Learners.

Activities Experienced. The example activities were drawn from Richards . Table 3 shows the activities, ranked by frequency. Repetitive activities targeting accuracy and linguistic competencies were most common. These results imply that a majority of participants' teachers used a small set of tools that target linguistic competencies frequently, alongside a set of simple communication focussed activities with less frequency.

#	Answer	Responses (n)=43	%
9	Jigsaw Tasks	0	0%
3	Interviews	0	0%
19	Surveys	0	0%
8	Task Based Activities	1	2%
1	Debate	1	2%
14	Discussion	1	2%
6	Other	1	2%
13	Information Gap	2	4%
11	Opinion Sharing	2	4%
21	Information Transfer	5	11%
15	Situational English	6	13%
17	Puzzles and Games	7	16%
4	Role-Plays	7	16%
12	Creative Writing	8	18%
7	Speeches and Presentations	9	20%
10	Authentic Examples of English	13	29%
20	Group or Pair Work	13	29%
5	Pronunciation Drills	23	51%
16	Mechanical Practice	26	58%
2	Repetition Drills	27	60%
18	Grammar Translation	43	96%

Table 3: Reported Activities Teachers Experienced as High School Students

All interviewees corroborated these findings. They reported activities like analysing sentential grammar and translation from English into Japanese. For instance:

(H) *“Teachers just read a passage and described the grammatical structure”*

Reports of communicative activities were limited:

(O) *“Before university I never practised any speaking or pronunciation”*

Teaching experience was measured against activities experienced to compare differences. Teachers of all ages reported activities emphasizing accuracy. Grammar translation was the most highly reported activity. Activities typical of TBLT like debate occurred infrequently. However as Figure 1 shows, early career teachers (1-5 and 6-10 years) reported slightly more communicative activities than late career teachers (21+ years).

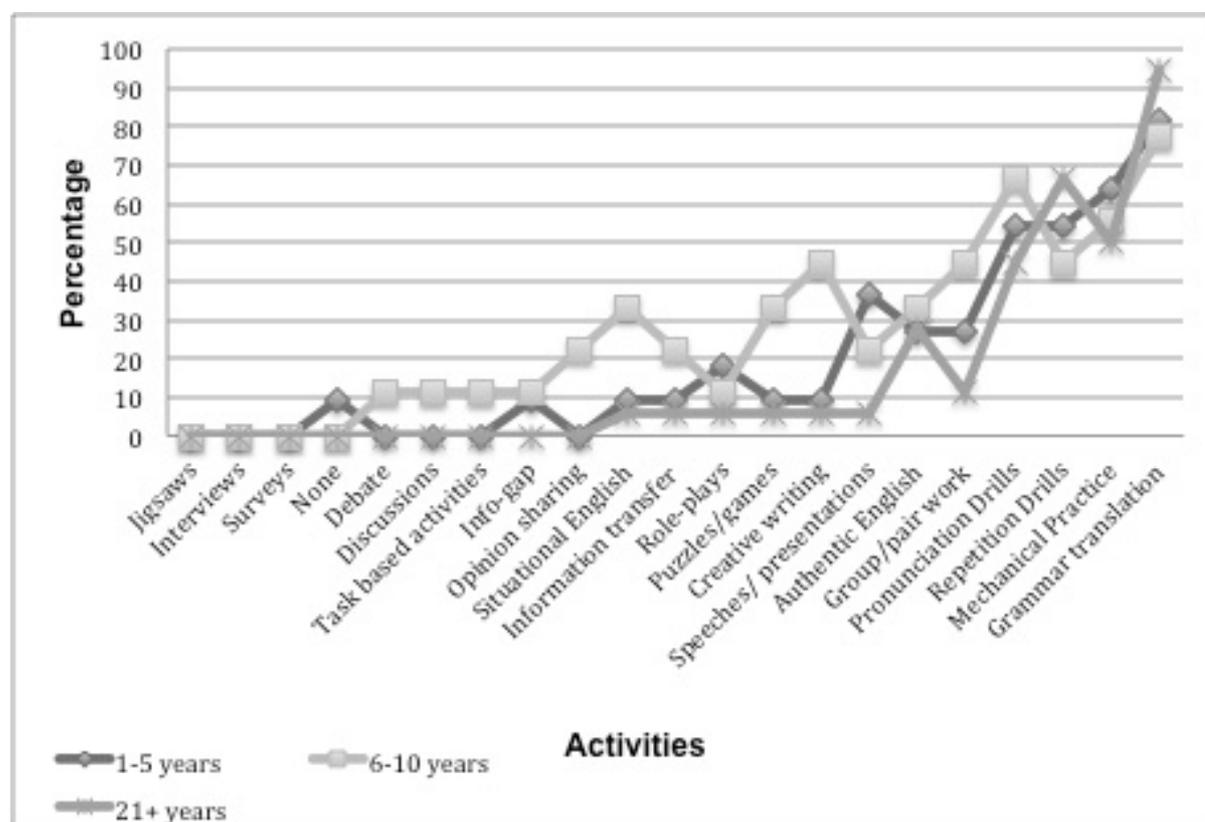


Figure 1: Early and Late Career JTEs Experience of Classroom Activities as Students

These results mirror Table 3. However, they show differences in the extent to which output promoting occurred. JTE (O) experienced no communicative activities, however the student teachers reported the many:

(B) *“The teachers prepared ‘active learning’ activities like debate, we practiced pronouncing words...and we learned how to write essays”*

Major activities undergone as students have remained similar regardless of experience, although communicative activities have become slightly more commonplace.

Important English Skills for Participants’ Teachers. Respondents identified reading, grammar, vocabulary, and accuracy as the most important areas for their

teachers. Speaking, fluency, listening and pronunciation were the least important. Table 4 shows their responses ranked by mean value.

#	Skill	1) Not Important	(2) Slightly Important	(3) Important	(4) Very Important	(n)	Mean	Min	Max	SD
8	Fluency	5	17	18	3	43	2.44	1	4	0.8
9	Accuracy	1	12	24	6	43	2.81	1	4	0.7
5	Pronunciation	3	6	18	17	44	3.11	1	4	0.89
4	Speaking	1	8	17	18	44	3.18	1	4	0.81
2	Writing	2	6	16	20	44	3.23	1	4	0.86
6	Grammar	0	6	15	23	44	3.39	2	4	0.72
3	Listening	1	6	10	27	44	3.43	1	4	0.82
7	Vocabulary	0	6	12	26	44	3.45	2	4	0.73
1	Reading	0	1	13	30	44	3.66	2	4	0.53

Table 4: Mean Ranking of Perceived Importance of Skill Areas
Interview data substantiated these findings:

(O) *“We learned English only for the entrance examination”*

These findings suggest that the university exam affected the JTEs’ teachers’ priorities.

University and In-Service Teacher Training. Participants were asked if they agreed with statements about their teacher training, to examine links with attitude formation. Table 5 shows their responses. There were few chances to teach practice CALT lessons. The interview data seem to partially support these findings. Early career JTEs like (E) and (K) and student teacher (B) reported learning of CALT theory at university, but had no chance to apply these theories in real classrooms during training.

#	Answer	University Teacher Training (n)=25		In-Service Teacher Training (n)=30	
		Response	%	Response	%
1	Promoted CALT	17	68%	13	43%
2	Improved my skills of managing group/pair work	9	36%	20	67%
3	Provided materials for communicative activities	9	36%	15	50%
4	Provided chances to observe CALT lessons	6	24%	21	70%
5	Provided chances to give CALT practice lessons	3	12%	8	27%
6	Provided practical guidance from MEXT about CALT	0	0%	1	3%

Table 5: Respondents' Views of Teacher Training and CALT

(O) aside, interviewees' comments about university training in Japan were negative. Training had not helped them develop applicable skills. Authentic classroom practice with students was frustratingly absent. All three student teachers spent 1 academic year abroad on their courses, as did (E). They had positive classroom experiences during their year abroad, including chances to practice in real classrooms. When asked whether the training in Japan or abroad had been better:

(C) *“The U.S. I think. Because we just did demo lessons in Japan. In the U.S., I actually learned how to teach speaking, listening, error correction. So I could see, ‘Oh, I should do it like this!’ Specific strategies.”*

These findings indicate that a potentially crucial role in attitude formation is played by practical experiences in the classroom during training.

Experience Living Abroad. The length of time JTE participants spent living abroad is reported in Table 1. An average participant spent around 6 months abroad. The interviews revealed profound cognitive impacts. (E) described how her experiences motivated her to keep using English, forcing herself to ask more questions in conversation. Her experiences also broadened her awareness of different styles of communication:

- (E) *“In Japan one person talks, the other person listens, and we never say anything right? In other countries when somebody speaks, then I speak. It's like catch ball [motions catching and returning a ball].”*

Encounters with ESL speakers made interviewees reflect on their own perceptions of the adequacy of non-native Englishes. (C) thought error-averse Japanese students could benefit from similar attitudes. Deep changes in outlooks towards education in Japan were also apparent. (H)'s experience at international school in Mexico made him want to become a teacher who gives students opportunities to speak and share opinions.

Impactful Experiences as Learners. Positively and negatively inspirational teacher figures left impressions. (H) talked about teachers who were strongly negatively inspirational figures. (K) favourably contrasted an elderly teacher who made a lasting positive impression with the majority of his teachers. (C) mentioned a particularly inspirational teacher:

- (C) *“I decided to be a teacher because of [her] actually... She communicated with native speakers very fluently. I felt, ‘Oh, I want to be a teacher like her!’”*

The impact such figures have on attitude formation may be important. Similarly, events or memorable activities may be crucial. (C) recalled a school English Camp:

- (C) *“I realised how poor I was at speaking English at that time. I just said, ‘Oh, really?’ in conversations but I just...reacted. I really couldn't talk about the things I wanted to talk about. I couldn't express my feelings, which was frustrating.”*

(E) described similar experiences at university, experiencing frustration at her reactive role. This realisation dramatically increased her motivation and encouraged her:

“That's what I found out, I always have to think, “What can I ask? What can I ask?” Or, you don't say anything. You always have to think of the next question, and that became my habit.”

In order to understand the attitudes that influence JTEs' classroom practice, it is crucial to look at key developmental experiences they have as learners.

Current Practices

Activities Used Today. Table 6 shows the regularity of reported current CALT use. The majority reported sometimes using CALT. Particular activities reported by participants are shown in Table 7, listed in terms of reported frequency. The most common activities focus on accuracy and linguistic competencies. Table 1, showing what classes participants teach, supports this.

Question	Never	Always	(n)	Mean	SD	Min	Max		
Do you use CALT principles, methods, materials or activities in your classroom?	1	2	3	4	44	2.09	0.83	1	4
	9 (20%)	26 (59%)	5 (11%)	4 (9%)					

Table 6: Reported Frequency of CALT Use in Classrooms

The results in Table 6 and Table 7 indicate that participants felt they used CALT sparingly, reflected in the type of activities they reported using. The interviewees felt open towards choosing communicative activities at appropriate times and difficulty levels. (O) warned of the need for a nuanced approach when using CALT:

(O) *“At first we should teach them the basic knowledge of English before doing task-based activities”*

His comments about level appropriateness were echoed by (H). JTEs used CALT in their classrooms in a restrained manner, taking into account the needs of particular classes.

#	Answer	%	Frequency (n=41)
3	Interviews	0.00%	0
9	Jigsaw	2.44%	1
6	Other	4.88%	2
19	Surveys	7.32%	3
1	Debate	12.20%	5
17	Puzzles & Games	19.51%	8
13	Information Gap	19.51%	8
14	Discussion	21.95%	9
21	Information Transfer	24.39%	10
8	Task Based Activity	31.71%	13
16	Mechanical Practice	34.15%	14
15	Situational English	36.59%	15

10	Authentic Examples of English	39.02%	16
12	Creative Writing	41.46%	17
11	Opinion Sharing	41.46%	17
4	Role-Play	43.90%	18
7	Speeches/ Presentations	46.34%	19
2	Repetition Drills	56.10%	23
18	Grammar Translation	73.17%	30
5	Pronunciation Drills	85.37%	35
20	Group/ Pair Work	87.80%	36

Table 7: Reported Activities Used in Class as JTEs

Activities Comparison. Comparing Table 3 and Table 7 tells us how frequently activities experienced as learners were used as teachers. Most activities appear in similar positions. However, this may not present a wholly nuanced picture. Several JTEs insisted they always tried to inject communicative components into classes:

(O) *“I use a similar teaching style to my high school teachers, but I combine it with speaking activities as the students like to talk to each other.”*

(H) has students read and listen to each other, wants them to spend more time speaking than listening to him, and rarely translates. (E) tries to replicate an experience she had in the Netherlands and teach content using English.

CALT: Knowledge of Theory and Policy

Knowledge of CALT. Knowledge of CALT, and sources of knowledge are reported in Table 8.

Knowledge of CALT					
	Responses (n)=46		%	Mean	SD
Heard of CLT?					
	Yes	29	63	1.37	0.49
	No	17	37		
Heard of TBLT?					
	Yes	29	63	1.37	0.49
	No	17	37		
Sources of Knowledge					
	CLT			TBLT	

Source	(n)	%	Source	(n)	%
No Response	0	0	No Response	0	0
Teachers' Union Workshops	2	6.9	Course of Study	2	6.9
Other	3	10.34	Teacher's Manuals	2	6.9
Teacher's Manuals	3	10.34	Other	3	10.34
Other Teachers	4	13.79	Teachers' Union Workshops	4	13.79
BOE Seminars or Workshops	4	13.79	BOE Seminars or Workshops	5	17.24
TESOL Seminars	8	27.59	Other Teachers	7	24.14
Course of Study	10	34.48	TESOL Seminars	8	27.59
University Teacher Training	10	34.48	University Teacher Training	10	34.48
Books, Journals, Online	12	41.38	Books, Journals, Online	15	51.72

Table 8: Sources of CALT Knowledge

A majority of respondents and interviewees had heard of either CLT or TBLT, from similar sources. Some interviewees were able to give broad descriptions of CALT:

(E) *“Its mainly about communication, doing pair work, speaking out.”*

However, detailed knowledge was generally patchy. Of CLT, (C) believed it had something do with putting students in real situations. Others showed confusion between CLT and TBLT:

(K) *“If we can communicate, or you can deliver your message and the listener gets the meaning or gets what you want to say then that's ok?”*

Detailed TBLT knowledge was also patchy. (O), (A) and (C) had not heard of it. When asked to define TBLT, both (E) and (H) were able to identify the group problem solving aspect.

CALT: Beliefs

Importance Placed on English Skills by JTEs. Table 9 shows the importance participants placed on skill areas. The responses are ranked by mean value. It shows that areas of linguistic competency such as grammar and receptive skills such as reading were considered the most important.

#	Skill	(1) Not Important	(2) Slightly Important	(3) Important	(4) Very Important	(n)	Mean	Min	Max	SD
8	Fluency	5	17	18	3	43	2.44	1	4	0.8
9	Accuracy	1	12	24	6	43	2.81	1	4	0.7
5	Pronunciation	3	6	18	17	44	3.11	1	4	0.89
4	Speaking	1	8	17	18	44	3.18	1	4	0.81
2	Writing	2	6	16	20	44	3.23	1	4	0.86
6	Grammar	0	6	15	23	44	3.39	2	4	0.72
3	Listening	1	6	10	27	44	3.43	1	4	0.82
7	Vocabulary	0	6	12	26	44	3.45	2	4	0.73
1	Reading	0	1	13	30	44	3.66	2	4	0.53

Table 9: Mean Ranking of Perceived Value of Skills Among JTEs

When comparing Table 9 and Table 4, many of the skills occupy similar positions. However, there were statistically significant differences in relative perceptions of importance. The mean score of the importance of speaking increased from 1.31 to 3.18. Independent t-tests found that speaking, fluency, listening, pronunciation, vocabulary, grammar and reading were all considered significantly more important than they had been for their own teachers. Accuracy was significantly less important to the JTEs than they felt it had been for their own teachers.

These data show complex links between experience, beliefs and practices. For example, Table 4 showed that accuracy was important to JTE's high school teachers. Today, accuracy was rated relatively unimportant to JTEs. However, their choice of activities noted in Table 9 shows that JTEs often choose repetitive activities like drills, emphasizing accuracy. Early learning experiences may contribute to later attitude formation and practices in ways JTEs are not aware of. This may indicate that links between JTEs' experiences as learners, beliefs and practices are affected by situational factors.

Influences on CALT Use

Factors that influence CALT use. Table 10 shows factors influencing CALT use in class, the most important being proximate, classroom level concerns. Class size was top, and the MEXT Course of Study was ranked as least important. The most important factors were rooted in structural features of the education system: too many,

de-incentivized students, too little time and not enough meaningful support in the form of professional development or usable pre-made materials.

#	Question	(1) Not Important	(2) Slightly Important	(3) Important	(4) Very Important	Frequency	Mean	Min	Max
7	MEXT's Course of Study	16	18	4	4	42	1.9	1	4
4	University Exam Preparation	10	11	12	10	43	2.5	1	4
3	Assessing Performance	5	15	17	6	43	2.6	1	4
10	School Support	3	13	15	13	44	2.9	1	4
2	NET's Presence	3	11	13	17	44	3	1	4
11	Teacher Training	2	8	16	17	43	3.1	1	4
8	Student Appropriateness	2	8	14	19	43	3.2	1	4
1	Access to Materials	2	6	15	21	44	3.3	1	4
6	Classroom Management	1	5	17	20	43	3.3	1	4
9	Student Motivation	2	3	10	29	44	3.5	1	4
12	Time	1	1	17	25	44	3.5	1	4
5	Class Size	0	3	12	28	43	3.6	2	4

Table 10: Mean Ranking of Factors Affecting the Decision to Use CALT

Factors that would enable CALT. Participants explained what would help them use CALT more. Their responses were coded by theme and put into Table 11. Most responses fitted the trends shown in Table 10. However, one disparity was that the university exam had been rated as only (2) Slightly Important, and yet Table 11 shows the essential role it played. If communicative activities were to be introduced more widely, then the university entrance exam needs to reward communication in order to increase student motivation.

#	Problem	Basic Themes	Solution
1	Materials	Current materials do not inspire, and are not appropriate. No pre made assessment schemes.	Make more materials available
2	NET	Without a NET, JTEs can't give enough explanation. NETs bring different perspectives. Interacting in English with the NET is pleasurable.	
3	Assessment	Quantifying students' progress is difficult. Dependent on the teacher's experience.	
4	University	The biggest indicator of our success or failure. No communicative component. Students demand we teach to the test. Grammar drills and translation achieve higher scores. Communication reduces exam performance.	Reward communication in the entrance exam.
5	Class Size	Average class size is 40. Exchanging opinions, etc. is impossible in classes of this size.	Reduce size to 10 at best, 20 at most.
6	Classroom Management	Maintaining control is hard. Can't monitor communication easily. Communication classes are too playful.	
7	Appropriateness	Care and time are needed to adapt. Many students lack the language ability to vocalize their thoughts.	
8	Motivation	Motivation is key. If an activity isn't geared toward university exams, many won't be motivated. Students feel embarrassed and nervous speaking English. Japanese students are not good at self-directed communication.	Training in how to raise motivation. NETs in class. Smoothly acclimatize students to communication
9	Support	Needs lots of teamwork and co-ordination. JTEs have many competing duties. Academic schools can't dedicate resources.	
10	Training	Many teachers don't know about CALT or how to use them. Practical case examples are limited. Many JTE's communication skills are too limited.	

11	Time	Creating materials and preparation takes too long The payoff doesn't justify the time spent. Students are under time pressure already.	Practical training, seminars, materials that help us visualize how to implement these classes would make more JTEs keen.
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Table 11: Site-Dynamics Matrix of JTEs Beliefs About Choice Factors for CALT

Many interviewees mentioned student motivation. (A) noted that many students might simply not be interested in English enough to want to participate in demanding communicative activities. (H) added that communicative activities may be unsuitable for typically error-averse Japanese students:

(H) *“I’m Japanese and I’m afraid of making mistakes, even if I’m trying not to show it *laughs*.”*

(B) and (K) described concerns about the university exam. (K) remarked that for third year students, communicative activities could be de-motivational and feel like wasted time. He added:

(K) *“We need to be very careful when we teach those communication skills.”*

The lack of assessment of communicative skills on the university exam is a key disincentive for JTEs, indicating tensions with MEXT policy.

Discussion

The findings validated conclusions on the nature of JTEs knowledge and beliefs about CALT, and factors influencing those beliefs, made by previous studies of CALT in Asia, like Butler (2011) and Littlewood, (2007). The findings indicated links between participants’ experiences, beliefs and practices, providing substantiation for the relevance of teacher cognition studies of classroom practice. Most importantly, the findings newly highlighted current trends and dynamics occurring with CALT implementation in Osaka prefecture.

The Experience Gap

Looking at Table 1 and 2, many participants were either late or early career. Only 1 mid-career interviewee could be found. Long-term demographic changes in Japan may have had a negative impact on teacher hiring . This has implications for education in the prefecture, and might explain the experience gap that arose in the study.

Yamazaki describes how urban centres experienced drastic changes over the 20th Century. In the post-war period, there was high teacher recruitment. However, from the latter half of the 1980’s onwards, average ages increased and the birthrate

decreased. Accordingly, Yamazaki notes that compared to around 3000 new teacher hires in Osaka prefecture in 1974, there were only 79 teachers hired in 1988.

Over the next ten years, teachers in Osaka who were hired in the 1980's will start retiring. If hiring does not increase, there will not be enough mid or early career teachers to replace them. Osaka has started hiring more new young teachers to address the impending experience crisis. The prefecture hired 85 new high school English teachers in 2015 alone . These trends are reflected in the skewed demographics in this study, and may account for anomalous results: there are simply fewer mid-career teachers.

RQ1: How do JTEs view their own approaches to English teaching?

JTE participants saw their classroom choices as driven by students' needs, and their judgments of appropriate teaching tools. As with their predecessors, participants taught a lot of grammar and reading classes in Japanese, using a small set of explicit instruction techniques to encourage noticing of grammatical structures and improve accuracy. That said, increasingly JTE participants are more eager and able to teach students in English about using English, not to only teach knowledge about the language in Japanese. Participants recognized that students enjoy communication, and that it has a place in their classrooms. Participants use more supplementary communicative activities at appropriate times in their classes than ever before.

Irrespective of student level, JTEs face the same problems: motivation and needs. What students feel they need from English class determines their motivation. Blanket decrees from MEXT for JTEs to encourage communicative English may not match how JTEs perceive the students' needs and wants. There is little alignment between these perceptions and what MEXT tells JTEs that students need. This relates to how JTEs see their own approaches to teaching because these findings suggest their own educational experiences help develop a 'value calculus'. From this, JTE participants may approach a class with views about their students' short and long-term learning needs and motivations. Then, they make calculations about what and how to teach. Participants feel that students applying to university do not currently need communicative skills to succeed. Instead, they need a rigorous command of grammar structures, good translation skills and a wide vocabulary. In the past this incentivized many teachers to only choose activities that prioritize linguistic and receptive skills, and neglect communicative skills.

When interviewees were asked what qualities were needed in a successful teacher, they talk about driven, passionate individuals, who can motivate their students. On the questionnaire, motivation was also a commonly stated factor. Participants see their approaches to teaching English in terms of their role as motivational facilitators; energizing students into achieving whatever English language learning goals are within their grasp. Participants select a needs-appropriate blend of communicative and linguistic oriented activities and methods.

RQ2: What do JTEs know and believe about communicative approaches to language teaching?

There was a lack of clarity on the specifics of CALT. However more, younger teachers were increasingly aware of CALT. As was shown, growing numbers of younger JTEs will soon be the majority in Osaka prefecture after the current cohort of

late-career JTEs retire, which may imply this trend will continue. Even if participants were unclear on specific details, there was guarded support for CALT. Used in suitable quantities, participants felt CALT have a place in their classrooms.

Beliefs about appropriate levels of CALT use differ. The results of this study confirm research such as Borg (2003), Numrich, and Kiss, showing how teachers' experiences as learners have complex interactions with cognition and practice. Specifically, participants' judgements of student motivation or appropriateness are situated within the context of broader structural restraints imposed by the current assessment system. Furthermore, the results confirm previous teacher cognition studies like Nishino (2012) and Richard et al., showing how the development of participants' values, which underlie beliefs and determine consequent pedagogical choices, are deeply affected by foundational experiences. These may inform teachers' beliefs and practices.

RQ3: What factors do JTEs believe would help them implement CALT in their classrooms more effectively?

Participants felt that a wide array of acute and systemic changes was needed. First, class sizes would need to be reduced to make communicative activities easier. Second, professional development practices need improvement. Participants need more hands-on, in-class experience actually using CALT, alongside advice about applying CALT in their context. In this regard, the results of this study substantiated those of Mori (2012), which showed the importance of teacher cognition studies for improving professional development practices in Japan. Hiring more teachers may give JTEs time to attend to other pastoral responsibilities. Finally, the results showed that many participants believe that the university exam needs reforming, to assess listening, speaking, reading and writing equally. JTEs felt that no individual change alone would make it easier to use CALT. Broad revolutions are required.

Conclusion

Demographic shifts have been occurring in this prefecture in Japan. More, younger JTEs were more likely to have had some positive experiences with communicative language use as learners than their older counterparts. JTE participants also seemed more knowledgeable and likely to hold positive beliefs about CALT today than they might have done in the past. Beliefs and values greatly determine classroom practice. Developed over a participant's lifetime of educational experiences, these beliefs inform teaching. The changes in JTE participants' classroom practice shown here, thus provide substantiation for this relationship. If MEXT truly wants to encourage more communicative English language use, then considering how to positively change the beliefs of its teachers may be more beneficial than new policy initiatives.

Two practical ways to do this became apparent. The first, and most important, is that MEXT needs to change the system of incentives surrounding communicative English use. Between 1990 and 2014, annually over 90% of high school graduates took the university entrance exam. By changing the nature of the exam to equally assess communicative skills, more students of all ability levels may be incentivized to try harder at communicative activities. Assessing productive English use would alter the motivational calculus for students and teachers, potentially changing beliefs. The second thing shown in this study is that providing more opportunities for authentic

practice can only be a positive thing. For Japanese teachers, the more time spent in the classroom and actually doing communicative lessons is far more valuable than just learning about how to do them. However, in the end the demographics of the teaching population may do more for the success of CALT in this regard than MEXT ever could.

The Way Forward and Future Avenues of Study

This study is one of the first in the English language literature to link teacher cognition, successful implementation of CALT and demographic changes in Japan. There is an opportunity for further longitudinal studies of the rapidly changing demographic landscape of the teaching population. Such studies could better examine impacts of demographic changes on beliefs about teaching communicative skills in Japan, and assist efforts to improve the teaching of communicative language skills.

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