

Japanese Elementary Schoolteacher Perspectives on Foreign Language Curricula: Piloting Reliability and Validity Test

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日本の小学校教員から見た外国語活動カリキュラム
—質問紙パイロットテストの正当性と信頼性の検証—
Japanese Elementary Schoolteacher Perspectives on Foreign
Language Curricula: Piloting Reliability and Validity Test

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Abstract

This is a pilot study aimed at understanding elementary school teacher attitudes toward foreign language curricula. The study involves the development of an original research instrument to examine teacher perspectives and assessment of the validity of the survey instrument. The instrument developed for this study is distributed to two different elementary schools in Saga Prefecture, Japan. The schools are similar in terms of size, student body composition, and number of teachers. The main purpose of this paper is to conduct a preliminary factor analysis and reliability and validity analysis and to report the results of the pilot survey, including group statistics across schools.

本研究では外国語活動に対する不安や懸念を含めた小学校学級担任の視点を広く捉えるための質問紙を作成するために行ったパイロットテストの結果を報告する。佐賀県の二つの同規模公立小学校に配られた質問紙は、各校の教員によって記入され、そのデータを基に質問紙の正当性と信頼性が検証された。また、このパイロットテストは、各校の記述統計値を見比べながらデータの全容に秘められた予備的要因を探求し、小学校教員の外国語活動に対する小学校現場の声を理解しようとしたものである。

Introduction

Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) has mandated the introduction of foreign language activities at the elementary school level starting fiscal year 2011. In the Japanese primary-secondary school environment, foreign language refers to English, which prior to 2011 was taught starting in the 7th grade. The new mandate is thus a rather substantial change in the Japanese educational system. The policy reflects globalization in multiple aspects of Japanese society. Policymakers feel strongly that younger generations must start acquiring communication-based foreign language skills earlier in their lives. Under the new policy, elementary school teachers are to prepare for and implement communication-based foreign language curricula, though most of them have inadequate training and/or qualification to teach communication skills other than in

Japanese. The foreign language requirement policy seems a laudable but perilous educational aspiration: laudable in its goals but perilous because the perspectives and opinions of classroom teachers regarding their readiness and inclination towards new requirements are usually ignored or otherwise unheard.

In this pilot study, an original instrument is designed to understand elementary school teacher perspectives on the new policy and their readiness regarding implementation of new curricula in the classroom. After this introduction the paper is organized as follows: conceptual framework, methods, highlights of the study results, factor analysis, reliability and validity analysis, implementation and conclusions, including a review of the literature for similar instruments.

1. Conceptual Framework

A major theory related to this pilot study is social cognitive theory as established by Albert Bandura. This theorist explained that social cognitive theory provides an agentic perspective (Bandura, 2001) to human development, adaptation, and change (Bandura, 2002). Human behavior is often examined in terms of unidirectional causation, expressed and controlled either by environmental influences or by internal dispositions. In the transactional view of social environment, self, and behavior, these three factors interact with and influence one another. Social cognitive theory is based on the idea that people learn by observing and modeling what others do and how they behave in social settings (Bandura, 1991).

According to Japan's Ministry of Education, Culture, Sports, Science and Technology (MEXT) foreign language instruction at the 5th and 6th grade levels will be an academic requirement in all elementary schools in Japan starting fiscal year 2011. Elementary school teachers are to prepare for and implement communication-based foreign language curricula to cultivate students' abilities to communicate in a language they do not usually hear or see. Despite several years of limited experimentation, on a national scale this is a new program and most elementary school teachers have received neither adequate training nor professional development related to foreign language instruction. College and university curricula for elementary school teachers require no more foreign language (e.g. English) training than one academic year and examinations required for receipt of a teaching certificate do not involve any foreign language comprehension. Moreover, communication-centered foreign language instruction is relatively new to Japan and current teachers generally have not received appropriate instruction or experience.

In Japan foreign language traditionally refers to English. The majority of elementary and secondary schools are teaching English as the first foreign language. Entrance examinations for high school and university require comprehensive "foreign language" (English) ability. Interestingly, this does not necessarily mean that students must exhibit "communication" ability; exams instead test how much grammatical material and written vocabulary students have memorized. Therefore, the English knowledge and ability of teachers as well as the Japanese population in general are not at all in line

with what MEXT is trying to achieve. Bandura's social cognitive theory indicates that the elementary school teachers in this system have few appropriate examples and models that they can recognize from their learning experiences, making it difficult to implement "English communication" in the classroom. Due to this new educational policy teachers are likely to face a psychological burden in their work environment regardless of their readiness or confidence with regards to elementary school curricula changes. In the terms Bandura used in his social cognitive theory, three fundamental factors (social environment, self, and behavior) are closely interconnected and influenced. The main purpose of this pilot study is to examine Japanese elementary school teacher attitudes and anxiety toward the new English teaching requirement being put forward by MEXT.

2. Methods

This section presents an overview of the pilot study methodology and discusses important details in three sub-sections: a description of the study participants, the original instrument created for this pilot study, and the data generation procedure.

2-1. Participants

Two Japanese elementary schools in Saga Prefecture in the southwestern part of Japan were selected and the teachers asked to voluntarily participate in the study. One could be seen as a control school and the other an experiment school. The experiment school has been actively implementing foreign language curricula school-wide while the control school has yet to take any steps toward complying with the upcoming MEXT requirements. In the third week of June twenty (12 female and 8 male) teachers from the control school and twenty-one (14 female and 7 male) teachers from the experiment school filled out the survey created for this pilot study. The average age was between 40 and 50 (the questionnaire only asked respondents to report age categorically) and the average length of service as a teacher was about 20 years. The control school had slightly older and more experienced teachers than the experiment school.

2-2. Instrument

The instrument developed for this pilot study was originally composed in Japanese as none of the respondents would have been able to complete a survey written in English. The survey was a paper form consisting of a total of 20 Five-Point Likert Scale questions and 12 demographic questions (see Appendix A for an English version of the questionnaire). Scale and ordinal level data was generated by the survey responses. The instrument inquired about participant readiness and confidence towards new requirements as well as attitudes and anxiety regarding new foreign language curricula. The instrument also examined the role of professional development and self-fulfillment opportunities in easing Japanese elementary schoolteacher foreign language anxiety when planning and implementing new learning activities. The instrument was one two-sided page in paper-and-pencil format. A cover letter and informed consent form were attached to the instrument. The principals from both schools completed permission forms allowing the conducting of the pilot study.

2-3. Procedures

The procedures for data generation at the two schools were done within the same week. An appointment was made with the principal of each school who was then given a packet of individually packaged envelopes. After providing a description of the pilot study including purposes of the study, procedures of the data generation, and potential benefits of participating the study, consent and permission forms were completed by the principal and returned to the researcher. Each teacher received an envelope and participation was voluntary. Completed surveys were returned in sealed envelopes to a survey administrator at each school with individual consent forms returned separately. In the cover letter and consent form, the participants were clearly reminded that the survey should be filled out anonymously. They were also informed that the data would be securely and confidentially kept and used only in the pilot study. Materials from each school were received approximately two weeks after distribution.

3. Results

The data generated from the two schools was examined for significant differences between various groupings of respondents. In addition to general group statistics, factor analysis, reliability and validity analysis were conducted to provide more depth.

3-1. Group Statistics

The data were analyzed to examine the possibility of significant differences between the two schools. The mean difference between School A ($n = 20$) and School B ($n = 21$) were compared and analyzed (see Table 1). School A was viewed as a control group and School B an experiment group. Three years ago School B started implementing foreign language activities and curricula, while School A has yet to develop any formal curriculum. Significant differences between the results from the two schools were identified in the categories of overall interest in foreign languages and cultures, attitudinal opinions about outsourcing foreign language instruction, and difficulties working and collaborating with Assistant Language Teachers (ALT) who are native English speakers (see Table 2). Comparing overall interest in foreign languages and cultures, School A showed less interest than School B. Additionally, School A results indicated a stronger preference for foreign language activities led by instructors trained to teach English. On the other hand, teachers in School B as a group were more interested in foreign languages and cultures and expressed less interest in outsourcing instruction. These results may suggest that teachers at School B are more confident in terms of implementing foreign language activity lessons because of their practical experience and professional development opportunities from previous years.

School B expressed less positive attitudes towards planning activities with an ALT. Possible explanations for this phenomenon could include the availability of ALT and the level of “collaboration” required to implement a lesson. One major difference between School A and School

Table 1: *School A and Elementary School Group Statistics*

	<u>Schools</u>	<u>N</u>	<u>Mean</u>	<u>Std. Deviation</u>	<u>Std. Error Mean</u>
Planning activities with ALTs	Omachi	20	2.90	0.641	0.143
	Asahi	21	2.33	0.913	0.199
Overall interest in foreign culture and language	Omachi	20	3.35	0.933	0.209
	Asahi	21	3.90	0.700	0.153
Usage of outsourcing instructors	Omachi	20	4.15	0.875	0.196
	Asahi	21	3.38	1.322	0.288

Table 2: *Independent Samples Test*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Planning activities with an ALT	Equal variances assumed	2.423	0.128	2.29	39	0.028	0.567	0.247	0.066	1.067
	Equal variances not assumed			2.309	35.9	0.027	0.567	0.245	0.069	1.064
Overall interest in foreign culture & language	Equal variances assumed	3.478	0.07	-2.16	39	0.037	-0.555	0.257	-1.074	-0.035
	Equal variances not assumed			-2.145	35.2	0.039	-0.555	0.259	-1.08	-0.03
Usage of out-sourcing instructors	Equal variances assumed	5.772	0.021	2.185	39	0.035	0.769	0.352	0.057	1.481
	Equal variances not assumed			2.206	34.9	0.034	0.769	0.349	0.061	1.477

B was ALT availability. School A was located in a small school district and assigned one ALT continuously, while School B was located in a large school district and shared five ALTs with all of the other schools in the district. The level of “collaboration” required or expected of the teachers when making lesson plans also differed across the schools. In a typical class meeting, teachers at School A rely on to the ALT to essentially lead the entire lesson, with teachers rarely participating in the process of developing lesson plans or other class preparation. On the other hand, School B is involved with the foreign language activities and was planning on hosting a nationwide

demonstration class and presentation a few months after the survey period. Differences in pressure and incentives at the school level as well as personal level might have been significant drivers of the differences in attitude.

3-2. Factor Analysis

The SPSS factor analysis procedure identified 10 factors (see Table 3) of which the first six seemed to contribute considerably to explaining the variance in the results (see the Scree plot in Figure 1). This section concentrates on those first six factors. The following names were assigned to the factors identified: Uncertainty factor, Personal interests in international experience factor, Age/Career factor, Personal educational factor, Teacher intensification factor, and Professional development factor.

Table 3: *Rotated Component Matrix*

	1	2	3	4	5	6	7	8	9	10
Progress assessment	0.874	0.168	0.090	0.005	-0.071	0.148	0.061	-0.010	-0.012	-0.005
Satisfaction in material, information,	0.742	0.087	0.334	0.128	-0.214	0.075	-0.119	-0.019	-0.132	0.006
Educational IT usage	0.722	-0.105	-0.286	0.078	-0.218	0.083	0.223	-0.155	0.068	-0.181
Curriculum dvlpment	0.691	0.265	0.096	0.326	-0.107	-0.151	-0.187	0.121	0.055	0.252
Stu. abroad experience	0.142	0.813	0.112	0.013	-0.078	0.194	-0.042	0.084	0.154	0.026
Homestay experiences	0.043	0.809	-0.098	0.236	-0.147	-0.005	-0.098	0.109	0.086	0.098
Eng. self enrich exp	-0.008	0.749	0.037	0.224	0.207	-0.024	0.063	0.170	-0.336	0.076
Activity with ALT	0.492	0.585	0.078	-0.027	-0.013	-0.348	-0.071	-0.338	0.034	-0.102
Conversational activity	0.395	0.521	0.159	0.428	-0.268	-0.185	0.185	0.028	-0.127	0.028
Leisure travelabroad	-0.048	0.470	0.356	0.348	0.060	0.174	0.140	-0.252	-0.208	-0.425
Age range	0.100	0.081	0.918	-0.049	0.014	-0.015	0.060	-0.082	0.052	0.072
Years of career	0.079	-0.024	0.889	-0.058	0.018	0.109	-0.008	-0.078	0.128	0.078
Info. clarity obtained	-0.028	0.178	0.589	-0.014	0.076	-0.173	-0.251	0.472	0.297	-0.085
Eng. Commu	0.278	0.242	-0.062	0.791	-0.004	-0.088	0.047	0.026	0.006	0.152
Readand writing	0.403	0.476	-0.094	0.584	-0.058	0.065	0.162	-0.096	-0.121	0.172
Overall interests	-0.212	0.183	0.180	0.554	-0.062	0.027	-0.123	0.488	0.191	-0.050
Listening & speaking	-0.058	0.117	-0.219	0.537	0.256	0.308	0.046	0.210	0.221	0.037

Nervous w/ foreigners	-0.174	-0.026	0.095	-0.521	0.207	0.501	-0.164	0.102	0.047	0.155
Outsourcing instructors	0.030	0.153	0.189	-0.137	0.817	0.202	-0.162	-0.107	0.171	-0.056
Teachers' intensify	-0.291	-0.210	-0.096	0.194	0.769	-0.129	0.012	-0.158	-0.124	0.036
English isn't my forte.	-0.350	-0.161	-0.039	-0.096	0.696	-0.246	-0.116	0.007	0.036	0.075
Beginning FLA in ES	-0.032	0.081	0.008	-0.044	-0.228	0.801	-0.113	0.051	0.061	-0.110
Pro. dvlpment	0.465	-0.035	0.023	0.086	0.094	0.799	0.023	0.049	-0.030	-0.080
Serv.current school	-0.133	-0.119	0.223	0.110	-0.090	0.089	-0.813	-0.205	0.060	-0.094
Educational degree	-0.032	-0.025	0.052	0.154	-0.245	0.051	0.723	-0.192	-0.038	0.109
Participants' gender	-0.121	-0.188	0.302	0.189	-0.121	-0.255	0.629	0.074	0.211	-0.225
Current school	-0.006	0.095	-0.199	0.069	-0.220	0.176	0.112	0.837	-0.175	-0.005
Need specific curr	-0.310	0.018	0.087	0.009	0.281	0.272	0.066	0.063	0.686	0.043
Job rank & title	-0.234	0.056	-0.345	-0.101	0.121	0.146	0.038	0.166	-0.670	0.077
Nonverbal skills	-0.059	0.091	0.098	0.102	0.070	-0.067	0.068	-0.029	-0.016	0.899
Basic Eng. skills	0.201	0.412	0.183	0.391	-0.257	-0.080	0.197	-0.089	-0.221	0.462

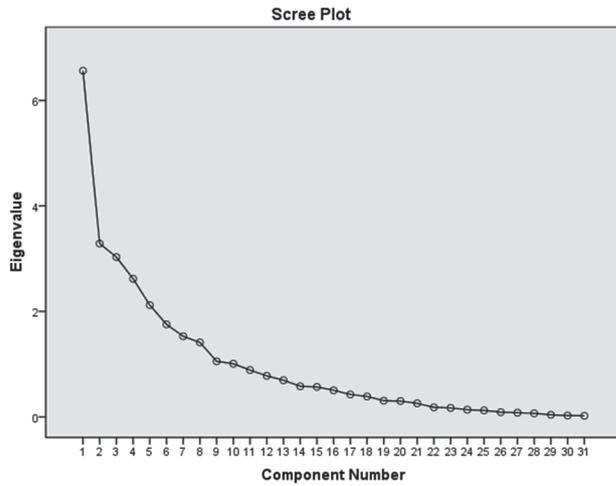


Figure 1: Scree Plot

3-2-1. Uncertainty factor. The four largest loadings for this factor appear to be closely related to the new educational policy implementation. Although some information and teaching materials were available, teachers still appear to feel uncertainty regarding the development and implementation of foreign language activities and student progress assessment. 5th and 6th grade foreign language activities are a new requirement and the relevant assessment criteria and methods are unclear and/or

uncertain. Additionally, foreign language activities are becoming more broadly involved with educational technology; the Japanese educational environment has generally low usage of educational technology. Uncertainty regarding new educational and curriculum policy and also unfamiliarity with educational technology seem to be the main drivers of the first and strongest factor.

3-2-2. Personal interest in international experience factor. The next factor was related to participants' personal interest in international experiences, such as study abroad, home-stays, and leisure travel experiences. This is an indicator of individual interest in foreign languages and cultures. In particular, participants who chose to take English lessons for personal fulfillment and enrichment should also be directly related to this factor and this variable has a strong loading. Overall, these types of personal interests could be driver of motivation to communicate with native English speakers, to learn more about foreign languages and cultures, and to actively use communication skills when implementing foreign language activities in class. Thus, personal interests may play a significant role in behavior in motivation and social environment (Bandura, 2002).

3-2-3. Age/Career factor. The third factor appears to be an age/career factor. Participants' age and teaching career length were strongly correlated. As indicated by group statistics, the more experienced the teachers the more comfortable they were with existing teaching materials and information.

3-2-4. Personal educational factor. The next factor captured important aspects of participants' personal educational backgrounds. Historically, Japanese English education has focused on learning by direct translation. Students were taught how to translate English written material to Japanese or vice-versa. Communication involving listening and speaking skills were not as important or at least not tested in high school and/or college entrance examinations. Current teachers who experienced this type of English instruction would likely have difficulty teaching practical oral communication in English. Without sufficient understanding of teacher educational backgrounds the new foreign language requirement will be difficult to implement successfully.

3-2-5. Teacher intensification factor. Here teacher intensification refers to the burden of daily responsibilities already experienced, i.e., without the new policy in place. Respondents indicated that their daily responsibilities have increased and their burdens have become heavier. Despite this reality in the Japanese educational environment the new policy will still be implemented. Teachers expressed concern about the new policy in that implementing communication-based foreign language activities was not really their field of expertise and that outsourcing such instruction would be a better solution given the burdens they already face.

3-2-6. Professional development factor. The last factor for discussion is related to the necessity for professional development in support of the new policy. Although participants expressed anxiety about the increased burden caused by the new policy, they were in favor of young children learning English communication skills at an early age. To support this proposal, availability and accessibility

of professional development opportunities are an important key element for successful implementation of the new policy.

4. Reliability and Validity Analysis

Reliability statistics for this instrument were analyzed, with SPSS indicating a Cronbach's Alpha of 0.683 (see Table 4) for the original set of survey questions. Among the variables in the instrument, some of those with higher loadings in the weaker factors and with small loadings within the more important factors appeared to yield a higher Cronbach's Alpha if deleted. This suggests that a more parsimonious survey may be superior. For example, participants' nervousness communicating with foreigners is an appealing first item to delete. The factor analysis identifies a relatively small factor loading for this variable in the 4th factor, and it seems that there are other similar questions such as participant communicativeness in foreign language (see Table 3). If just this one item were eliminated, Cronbach's Alpha would increase to .711.

Without a large reduction in the number of items, other items might also be considered for elimination or combination with other items. The "English is not my forte" item may include some negative and/or ambiguous nuance that could be confounding the results. If this item is deleted, Cronbach's Alpha goes up to .751. Additionally, eliminating the item asking about years in teaching at the current school could be removed since it seems to have no real impact on any of the forms of analysis considered. If all three of the above-mentioned variables were deleted, Cronbach's Alpha would increase to .766. Since those items are identified with lower factor loadings or less cohesive relationships within the factors, they should be considered for removal from the instrument if further study is pursued.

5. Discussion

The pilot study revealed some interesting statistically significant results in differences between the two schools as well as insight into latent factors behind the responses to items in the instrument. In the following discussion section, limitations and suggestions for a future study will be discussed.

5-1. Limitations

In conducting the pilot study, limitations on sampling and conflicts of interest must be reported. Firstly, respondents numbered only 41, barely enough to draw any conclusions based on statistical hypothesis tests. Secondly and perhaps even more important, the researcher was a parent of a student at School A (the control group), something that might have influenced the data generated from that school. Moreover, the Principal at School A introduced School B to the researcher in order to help conduct the pilot study. The 100% return rate likely explains the degree of connection between the researcher and school administrators. This could greatly influence the data and is a notable limitation for the pilot study.

Table 4

Cronbach's Alpha	N of Items
.683	24

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's α if Item Deleted
Eng. Communicativeness	66.18	61.533	.448	.652
Reading and writing	66.73	61.435	.531	.647
Listening and speaking	66.70	62.779	.456	.654
Basic English skills	65.70	62.421	.436	.655
Conversational activities	66.20	61.446	.485	.649
Curriculum development	66.30	60.164	.579	.640
Progress assessment	66.13	62.574	.490	.652
Planning activities w/ ALT	65.73	64.717	.380	.663
Educational IT usage	65.98	68.384	.044	.693
Interests in foreign stuff	64.73	66.512	.231	.674
Nonverbal skill confidence	65.63	68.240	.093	.685
Material satisfaction	66.05	62.510	.449	.654
FLA in elementary	64.58	69.379	.021	.691
Professional development	64.53	64.871	.349	.665
Need specific curricula	64.63	69.625	.006	.691
Info. Clarity	65.55	65.741	.247	.672
Teachers' intensification	64.50	72.154	-.157	.704
English isn't my forte.	64.78	74.692	-.270	.724
Outsourcing instructors	64.58	64.815	.226	.675
Nervousness w/ foreigners	64.35	72.900	-.194	.711
Age range	65.35	63.515	.413	.658
Serv in the current school	66.38	70.292	-.041	.696
Years of career	63.88	61.343	.332	.663
Leisurely traveled abroad	66.95	64.254	.396	.661

5-2. Suggestions for Further Research

For future research, modification of the original instrument and sampling strategies should be considered in light of the limitations indicated above. It would also be beneficial to examine a similar instrument that is commercially generated.

The Benesse Educational Research and Development Center (BERD) is a large Japanese company located in Tokyo that works on a wide variety of research and development in the field of education. BERD conducted similar research in 2010. This was follow-up research to a 2005 study. In the project 8000 elementary schools in Japan were randomly chosen and sent one instrument for 5th and 6th grade homeroom teachers. The return rate was 29.1% ($n = 2,326$). The 12 pages, mostly four-point Likert scale instrument (see Appendix B) was more thorough and lengthy compared to the instrument developed for this pilot study. A small number of five-point Likert scale and some qualitative items were included in the instrument. The obtained data were mostly scale level with some ordinal and nominal level. The instrument developed for this pilot study only explored elementary school teacher attitudes and anxieties toward their own foreign language instruction and the new English teaching requirement being put forward by MEXT; the instrument created by BERD included details of student learning, curriculum development and assessment, professional development, educational information technology usage, and hours of foreign language activities. The BERD instrument likely took an additional hour to complete compared to the instrument developed for this pilot study.

In conclusion, developing a new instrument combined and modified from these instruments would be an ideal direction for future study. Depending on the main purpose of the study, the instrument could be more focused (shorter and more specific) to not only assure a good return rate when surveying a much larger group but also to avoid respondent survey fatigue. These are important points for future study when generating more accurate data, especially considering usability and purpose within social science environments.

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