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ABSTRACT
This research attempts to develop effective English learning software for Japanese elementary students. We research effective features in language acquisition. We refer to the storage system of brain, the language acquisition mechanism, cognition and psycholinguistics, and some advantages of CALL (Computer Assisted Language Learning). Then we apply these factors into the application of computer-learning.

This software provides picture stories with animation and sound. They will facilitate understanding English through images. Learners can understand foreign cultures through stories. Many kinds of games enhance learners' motivation and exposure to natural English. Phonics and categorized picture dictionaries are also incorporated into the software. The categorizing of English words will help children's encoding and decoding. Computer applications promote a communicative two-way interaction and learners-directed learning. These special features are our original contribution in EFL. We propose a syllabus using this Software. We use the syllabus in two Japanese elementary schools to assess the validity of the software. We evaluate the effectiveness of English learning for Japanese elementary students.

Keywords: English Teaching in Elementary School, Cognitive Science, Information Communication Technology (ICT), Language Acquisition, Software Development, Syllabus

1. Background and Aim of Research
It will be necessary for children to speak English and state their own views in English in the 21st century when the internationalization of the world advances further. The Japanese Ministry of Education, Culture, Sports, Science and Technology (Monbukagakushou) began "Integrated Study (Sougou no Gakushu)" from April, 2002. It includes "International understanding education" and "Information education". In "the international understanding education", the Monbukagakushou hopes to promote Japanese children's understanding of a foreign culture through the use of English. Each school is trying out an original idea through trial and error. The Monbukagakushou proposes that elementary schools should teach children more communicative English. It may be necessary for the children to be able to speak English in some cases.

However, in a Central Council for Education reply as of November 17, 1997, the Monbukagakushou announced the report of "not using a written language" when English is introduced into elementary schools. The announcement of teaching English without a letter and literacy resembles a whole language instruction without phonics in America. The article "A Reading War" and the book "Why Jonnie can’t Read" written by Rudolf Flesch argued that a phonic instruction is the only natural system of learning how to read because English is alphabetic and thus phonetic. Once taught in phonics-based instruction, children will be able to read and write all by themselves forever after. One more important thing of reading is automaticity (Adams, 1994). Without automatic recognition of letters and words (lower level processing), readers cannot achieve fluency in reading. The automaticity is important for the fluency of not only reading but also speaking. Automaticity is afforded only through learning and over learning. Extensive story reading is the prime source for automaticity development.

Through these reviews of English acquisition, We strongly believe that Japanese elementary school should
teach children English literacy and an extensive reading to cultivate the children’ English ability in reading and speaking. Therefore, referring to the basic ideas of English acquisition We developed an English teaching multimedia software: "はじめての英語 Mika & Mike" 創育田中幸子 and proposed a curriculum using this software for Japanese elementary students.

2. The ideas we based this software and this curriculum on

2.1 Automatic decoding

We think the interrelation of four processors in Adams's model is important and effective for EFL beginners as the following figure illustrates. We believe these processors can cultivates learners' all kinds of English ability; not only reading, but also writing, and speaking. Learners' phonological knowledge and processes are theoretically related to the rest of the system: Orthographic, Meaning, and Content processors as they are involved in reading. The auditory image of any particular word, syllable or phoneme corresponds to the activation of a particular, interconnected set of those units. It is especially important that the Orthographic, Phonological, and Meaning processors are all connected in both directions with each other. This circular connectivity ensures coordination between the processors. All three processors will be working on the same thing at the same time. Even more, it ensures that each processor will effectively guide and facilitate the efforts of the others. Each processor processes each type of information, yet all works together with collaboration. They support each other and enhance the reading process. Each has its function and its vulnerabilities. However, the interaction of the other processor can compensate the vulnerabilities of each processor. English learning is a complex, cognitive process. Reading processing depends not just on appearance and orthography of words, but also on their meanings and pronunciation as well. It involves four processors in our brain, orthographic, phonological, meaning and context processors. (Fig.1)

2.2 Mechanisms of the brain and language acquisition

a. River (1971) claims that lexical memory is involved in understanding linguistic information. According to Atkinson & Shiffrin (1971), the relation between brain mechanisms and language acquisition is accounted for in the following way. Linguistic information input is first stored in sensory storage via sensory organs. It undergoes feature extraction and part of it is moved to short-term storage (short-term memory). The information in the storage, being referred to the contents in the information storage already in existence, undergoes various kinds of processing which are necessary to read letters and to understand the meanings, and is transmitted. Further it becomes out-put information through some kind of activity (speaking, reading, writing, etc.). The information that goes in the rehearsal buffer, a special place within the short-term storage is kept by the rehearsal process without being lost and

Fig.1 Adams’ model: The relation of the Orthographic, Phonological, Meaning, and Context Processors in Fluent readers
with a certain probability, goes into the long-term storage (the long-term memory) and is kept for a long time. Atkinson & Shiffrin’s (1971) double storage system is given in Figure 2.

b. According to Nobelist, Sperry (A Nobel prize for medicine 1981), the left hemisphere of the brain is superior in processing linguistic (digital) information and the right hemisphere is superior in processing visual-spatial (analog) information. The latter is also related to intuition and creativity. This means that showing images with the top-down approach is especially effective in English language acquisition for elementary students. Because children don’t have a enough language experience. Their right hemisphere is active in precising images. We shows the Superiority of Right and Left Hemisphere of Brain in Fig. 3.

c. The Speech area of Wernicke
The electric incentive checkup by G.A.Ojemann of Washington State University shows that in multilingual individuals each language may be registered in a separate site within the Wernicke’s area. (Fig.4) Therefore it is more effective to teach English without translating English into Japanese.
2.3 A language acquisition model by some distinguished linguists

Various hypotheses of English language acquisition have been proposed by linguists.

This research focuses on Stevick's (1984) language acquisition model. As opposed to Krashen, a famous linguist who claims that learned linguistic knowledge is totally different from acquired linguistic ability, Stevick claims that the two are not concepts that oppose each other but that they are just located on the opposite extremes of language acquisition. That is, learning is a conscious extreme and acquiring is an unconscious extreme. Learning plays an important role as monitor. Stevick's language acquisition model is shown in Fig 5.

2.4 Elements effective for language acquisition

As we can be seen in the diagram above, not all linguistic information is taken in -- it has to go through the emotional filter of a learner. Some effective elements for the filter are (a) quality and quantity of input (Ellis (1984)), (b) motivation of a learner (Carroll (1962)) and desire to learn, (c) whether a context of learning materials is systematic and related (Episode hypothesis (Oller (1979)), and (d) whether it is appropriate for a learner's level (i+1 hypothesis (Krashen (1981B, 1982))

2.5 The interaction of top-down and bottom-up

We might compare the top-down approach to a bird's eye view of the landscape. From a great height, the bird can see a wide area spread out below; it can understand the nature of the whole terrain, its general pattern and the relationship various parts of it. In reading, we make use of previous knowledge; our own intelligence and experience based on the schema we have acquired to understand the text. Using this we can make the predictions. This kind of processing is used when we interpret assumptions and draw inferences. We make conscious use of it when we try to see the overall purpose of the text, or catch a rough idea of the pattern of the writer's argument, in order to make a reasoned guess at the
next step. The top-down approach gives a sense of perspective and makes use of all that the reader brings to the text; prior knowledge, common sense, etc, which have often been undervalued in the reading class.

We might compare the bottom-up approach to a scientist with a magnifying glass examining the ecology of a transect - a tiny part of the landscape the bird sees. The scientist can understand the detailed part of that one little area. In the bottom-up approach, we make use principally of information which is already present in the text. We build up meaning from the black marks on the page; recognizing letters and words, working out sentence structure. We must scrutinize the vocabulary and syntax to make sure we grasped the plain sense correctly. The bottom-up approach would understand a text mainly by analyzing the words and sentences in the text itself.

The interaction of top-down and bottom-up: these two approaches are complementary ways of processing a text. They are both used whenever we read; sometimes one predominates, sometimes the other, but both are needed. Although the reader may be unaware of which approach is activated, both can be adopted as conscious strategies by a reader approaching a difficult text. Both are important strategies for readers.

3. Needs Analysis for EFL beginners: Japanese elementary-school students

3.1 Learners' profile

Learners are Japanese elementary-school students. They have never studied English and they are, thus, real beginners for English learning. Their learning environment is EFL: English as a Foreign Language. Typically, primary school children don't have a sufficient memory strategy that information can be understood only in the language. They don't have enough knowledge and experience to express their will only in the language. They don't have enough literacy in the first language, either. They have insufficient sounds and literacy in English. In 2002, the Japanese Ministry of Education, Culture, Sports, Science and Technology has started International understanding education: "Kokusairikaikyouiku": in the use of English. Therefore learners need an appropriate and effective English learning. They will be able to listen, speak, read, and write English.

3.2 Needs Analysis

I analyzed their needs, referring the basic studies of reading and a language acquisition. Japanese elementary school students have not been exposed to English sounds and grammar enough to understand English sentences. Therefore, it is necessary to introduce English phonemes first, and extend to words and sentences in the bottom-up processing. In addition of these linguistic (language) schemas, they need content schema and formal schema in the top-down processing.

In planning an English course for beginners, we must specially pay attention in the appropriate materials matched to the learners' level. As they don't have the sufficient memory strategy that information can be understood only in the language, the pictured material is very helpful in decoding. It is also important to motivate English learning. I hope they will feel happy and pleased when they can read English.

I recommend that before students start this course, they should have much exposure to spoken English and become familiar with English sounds through English games and songs.

3.3 Goals and objects

Goals of the course

By the end of the course, students will be able to read simple, age-appropriate texts in English. They will be able to do a simple daily conversation.

Sub-goals

What do the students need to be able to do in order to attain this goal?

1. Students (Ss) will develop the basic bottom-up English reading skills.
   a) Ss will be able to recognize the individual shape of the capital letters and the small letters of alphabet and they will be able to say their name and understand them in alphabetical order.
   b) Ss will be able to master the alphabetic principle: the letter-sound correspondences.
   c) Ss will be able to recognize words and match each word with a picture.
   d) Ss will be able to read three-letter words (ex. dog) with accurate pronunciation. They will be able to recognize as sight vocabulary: the 500 most frequent English words.
   e) Ss will be able to identify the meaning and understand phrases and sentences, using the sight vocabulary.
2. Ss will be able to use the Bottom-up and Top-Down skills in order to read simple, age-appropriate texts in English. They will expand sufficient schemata for achieving comprehension.
   a) Ss will be able to predict the meaning with a sense of perspective and a prior knowledge, a common sense, etc.
   b) Ss will be able to develop and cultivate the knowledge of L2 culture through reading.
   c) Ss will be able to understand the structures of English sentences.

3. Ss will be able to expand their vocabulary in reading.
   a) Ss will be able to expand their vocabulary in reading interesting, meaningful and coherence text books that match to their reading-level.
   b) Ss will be able to encode and decode English words and to categorize the words.

4. Ss will be able to read and understand text meaning. Ss should experience happiness and enjoyment when they will read English.
   a) Ss will be able to decode and read aloud simple, age-appropriate English texts.
   b) Ss will be able to decode and read aloud stories.

5. Ss will be able to challenge Developmental Readings. They will be able to record their self-assessment sheet to assess their reading progress. They will be able to write a book report.
   a) Ss will be able to challenge developmental readings. We recommend "First reading Lab", "Developmental 1" in SRA.
   b) Ss will be able to record their self-assessment sheet to assess their reading progress.
   c) Ss will be able to write a simple book report.

4. Software Development

We referred to effective factors in language acquisition and needs analyses of English learners in Japanese elementary school. Then, we developed effective English learning software for them. We’ll introduce several special features of the software. Please see Development Environment and Operating Environment of Software in Appendix III.

Special Features of this software

4.1 The picture-story with animation

The picture story which consists of English sentences with episodic structure is presented using animation by the top-down method. This method will help Ss grasp the story as images without translation in the right hemisphere. Ss also will be able to predict the meaning through images.(Fig.6)

4.2 Programming many kinds of games

Enjoying the games, students (ss) can experience a large quantity of natural English. These games motivate ss. (Fig.7 and Fig.8)

4.3 Programming English songs

Ss master English through TPR (Total Physical Response).

Many kinds of enjoyable games and songs are introduced. They open children’s heart. They are rich in the variety and pleasant. Ss master English through TPR. Enjoying the games and songs, ss can take a quantity of English shower. Ss will have much spoken English shower and will be familiar with English sounds through games and English songs.(Fig.9)

4.4 Alphabet chart of 36 phonemes

The sounds in this alphabet chart is chosen according to the [A, Bu, Ku, Do] method (The pronunciations correspond their letters.) In the alphabet chart, there are 36 sounds. Each letter is colored; the vowel sounds in red, voiceless consonants in green and voiced consonants in blue.

Ss can enjoy Games of Phoneme awareness; Phonics grouping game, and Same Phoneme Word finding game. They are introduced in order to give a large quantity of input and to motivate the learners.

Ss will be able to recognize the individual shape of the capital letters and the small letters of alphabet, and they will be able to say their name and arrange them in alphabetical order.

A system of teaching readings is built on the alphabetic principle, a method of which the central component is the teaching of correspondences between letters and sounds. Children are taught to recognize the relationship between letters and sounds. They are taught the sounds that each alphabet letters represent, and then try to build up the sound of a new word by saying it one sound at a time. Phonemic awareness is an awareness that Phonemes exist as separate sounds, the ability to discriminate between phonemes. It
Fig. 6  The picture-talk show A story [Sweets at three o’clock]

Fig. 7  Bingo, Word matching, Alphabet Order

Fig. 8  Story Matching, Phonics Grouping, Word Finding

Fig. 9  English Songs

Fig. 10  Alphabet chart of 36 phonemes

Fig. 11  Questionnaires about the stories
Chart 1  Hierarchical model of reading

Alphabet chart of 36 phonemes

Word [aː/, a:/, a:/ apple]

A sentence [Mike is cutting an apple.]

Fig.12  Stories (36)

Fig.13  Picture Dictionary

The picture-talk show [A Summer Camp]
involves conscious, analytic knowledge and conscious attention to the sounds of words. Research shows it is one of the best predictors of child reading achievement. The level of phonemic awareness can be assessed by 6 different tasks: 1) phonemic segmentation tasks, 2) phoneme manipulation tasks, 3) syllable-splitting tasks, 4) blending tasks, 5) oddity tasks, and 6) nursery rhymes.

Ss will be able to master the alphabetic principle: the letter-sound correspondences and will be able to read three-letter words (ex. dog) with accurate pronunciation. (Fig.10)

4.5 Bottom up skills
Hierarchical model of reading: phonemes → words → sentences → story

In order to help learners who have not been exposed to English sounds and grammar to understand English sentences, it is necessary to introduce English phonemes first, and extend to words and sentences.

This hierarchical model of reading is a way to analyze complex reading process by breaking it down into the sets of basic skills and identifying their interrelations.

It starts at the bottom-level; 1) cognizing individual letter, 2) recognizing spelling patterns and phonological translations, 3) recognizing words, 4) analyzing clauses and phrases, and 5) understanding sentences, and finally 6) extracting full meaning of a written text. This traditional, hierarchical view of reading emphasizes the importance of cultivating the children's basic and bottom-up reading skills until they will be able to access these language knowledge without thinking (automaticity).

Ss will develop the basic and bottom-up English reading skill. (Chart.1)

4.6 Questionnaires about the stories

Ss will be able to understand the structures of English sentences through questions concerning the picture stories. The questions are involving who, what, when and where. Ss will be able to expand linguistic (language) schema: knowledge of sound-symbol correspondences, vocabulary, and grammar though answering the questions. (Fig.11)

4.7 Top-down skills; a sense of perspective and prior knowledge, common sense, etc. They will expand sufficient schemata for achieving comprehension.

Top-down processing is the knowledge-driven processing related to schemata (background knowledge that a reader brings to the act of readings). In top-down processing, readers use previous knowledge to get the meaning, including expectations and experience, and it involves higher-level of comprehension/interpretation skills.

In practice, both processing occur interactively and simultaneously. The interaction of top-down and bottom-up is important strategies for readers. These two approaches are complementary ways of processing a text. They are both used whenever we read; sometimes one predominates, sometimes the other, but both are needed. Although both strategies are used unconsciously, both can be adopted as conscious strategies by a reader approaching a difficult text.

There are 36 stories. Each of 36 phonemes has one story. They have an each title such as "Camping", "Fireworks", "Sports day", "Weeding", "Sports day", and so on.

The stories describe the international friendship between a Mike's family (foreign family) who is living in Japan because of his father's business, and Mika's family (Japanese family). Ss will come face to face with another culture. Ss will be able to know the different way of living, acting, thinking and speaking. (Fig.12)

4.8 Picture dictionary

A categorized picture dictionary is also incorporated into this program. The categorizing of English words will help children's encoding and decoding. This processing promotes word recognition. Word recognition is orthographic identification of words. In reading, as readers bind sequences of individual letters into coherent spelling patterns, they can recognize them as words. Then, they connect them to pronunciations and meanings, and reading comprehension will be achieved. Quick and accurate word recognition is essential for lower level of reading processing, which is based on whole reading processing. Students will expand their vocabulary by reading interesting, meaningful and coherence text books that match to their reading-level.

At first intensive reading is generally at a slower speed, and requires a higher degree of understanding than extensive reading. It emphasizes lower-level of reading processing (letter-word recognition). It is code-emphasizing, bottom-up approach. At the next step, an extensive reading means reading in quantity and in order to gain a general understanding of what is read. It is intended to develop good reading habits, to build up knowledge of vocabulary and structure, and to encourage a liking for reading. It is meaning-emphasizing, top-down approach, stressing higher level of reading processing.(Fig.13)
5. Class Activities

At two Japanese Elementary schools

We proposed some curriculums with activities. They are 1. A whole curriculum for a Japanese elementary school, 2. one-year curriculum in a Japanese elementary school, and 3. a lesson plan. (See Appendix II)

Homeroom teachers in two Japanese elementary schools referred to the curriculums and tried English class activities with this software.

Outside of school environments, we also had a chance to observe some children's use of this software.

6. Result

We did on-site observation in a class of Japanese elementary school, at a Japanese kindergarten, at OE DAE Language Institute in Korea, at Kanagawa Multimedia Show and so on. We did on-site observation. At the same time we gathered the data about the learners' learning history and feedback questionnaires.

6.1 On-site observation

1) Ss were enjoying games with friends and singing some songs in TPR.
2) After ss watched stories with animations, a teacher asks "what is Mike doing? Ss can answer "マイクはリンゴを切っている" in Japanese. They can grasp the story as images without translation into Japanese. After that, they are repeating the story with their actions.

6.2 Data of learners' learning history

We gathered some of the data about learners' learning history and calculate the average percentage of correct answer in some items.
1) Ss can recognize the individual shape of the capital letters and the small letters of alphabet and they will be able to say their name and make them in a correct alphabetical order. 82% (Alphabet Game)
2) Ss can identify the meaning and can understand the story as images without translation into Japanese. 68% (Questionnaire)
3) Ss can recognize words and match each word with a picture. 52% (Word Finding)
4) Ss can master the alphabetic principle: the letter-sound correspondences. 62% (Phonics Grouping)
5) Ss will be able to expand their vocabulary through a picture dictionary. 76% (Bingo)

6.3 Questionnaires
1) Are you interested in English?
2) Are you learning English outside the school?
3) Have you used software for English learning?
4) Was this software fun?
5) What application of this software was the most interesting?
6) Could you understand the story without Japanese translation?
7) Could you understand English phonics?

![Questionnaire 1,2,3,4,6,7](Fig.19)

![Questionnaire 5](Fig.20)

**7. Discussion**

Through on-site observation in the class, the data of learners' learning history and the questionnaires, we evaluated the effectiveness of our developed software of English learning for Japanese elementary students.

We observed the followings. ① The special characteristic of this software; the phonics instruction helps learners' understanding the rule of English spelling and sound. ② The story in this material is presented by video so that the ss can understand information by images without translation into Japanese. ③ These stories' topics are familiar to the learners and interesting for elementary school students. ④ They are also useful in building the schemata of L2 culture. ⑤ A classified picture dictionary is also incorporated into this program. The classification of English words will help children's encoding and decoding. ⑥ Ss were singing songs with TPR They master English naturally through TPR. ⑦ Enjoying the games, learners were exposed to a quantity of English. These games motivate the learners to learn English and cultivate language knowledge.

If the students continue this learning another one year, they will be able to read an easy text and understand its meaning. They will experience happiness and enjoyment when they will read English.

Syntactic units are a group of words that makes sense together in a sentence. In a text, major syntactic unites are phrases, clauses, and sentences. In higher level of reading processing, above morphemes (words) recognition level, the ability to recognize syntactic units is crucial for decoding overall meaning. Ss will be happy and pleased when they will be able to read English.

In a future, the ss will be able to challenge Developmental Reading Laboratory (SRA). They will be able to record their self-assessment sheet to assess their reading progress. They will be able to write a book report.

In their next step, they will challenge more various kinds of extensive readings, and expand the vocabulary and the linguistic. I will recommend "First Reading Laboratory (SRA) ".

**8. Conclusion**

As a way for children who do not have enough memory strategies to understand information through language alone, the images from visual and auditory sources enable them easy understanding of the details of what was said. Also in order to help learners who have not been exposed to English sounds and grammar to understand English sentences. ① it is necessary to introduce English phonemes first, and extend to words and sentences. ② Specially through picture images, the learners can easily attack the text and understand English. ③ The picture story which consists of English sentences with episodic structure is presented by the top-down method. This software can help the learners grasp the story through images
without translation. ④ These stories’ topics are so familiar to
the learners and are interesting for elementary school students.
⑤ The stories describe the international friendship between a
Mike’s family (foreign family) who is living in Japan because
of his father’s business, and Mika’s family (Japanese family).
Ss will come face to face with another culture. Ss will be
able to know a different way of living, acting, thinking and
speaking. That’s why they are also useful in building the
schemata of L2 culture. ⑥ By the use of the picture dictionary,
the categorizing English words and the acquiring L2 reading
skill will help learners’ encoding and decoding. ⑦ Enjoying
the games, learners can experience a large quantity of English.
And these games motivate the learners to learn English and
cultivate language knowledge.

We estimate the following. (a) These learning programs
are designed to help Japanese children who are not familiar
with English sounds and grammar to understand English
sounds, words and sentences. (b) Especially the stories
connected with phonics are effective in developing ESL
learners’ reading skill. From intensive reading to extensive
reading, the automatic decoding would be possible in
speaking and writing. (c) Games and Songs are effective in
motivating learners’ English learning. Teaching English with
written language and literacy is also effective in cultivating
the learners’ English communication skills.

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【日本語要約】
日本人小学生的ための
英語学習用ソフトウェアの開発とその評価

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ますますグローバル化する二十一世紀に生きる児童にとって、国際社会で生きて行くためにも、真の国際理解のためにも、英語でコミュニケーションが出来る力を身につける必要に迫られている時代の状況下にある。10年前に文部科学省は小学校に英語を通じての国際理解教育の導入試行をスタートした。多くの学校で試行錯誤しながら創意工夫をこらえて来たが、文部科学省は、平成20年3月に小学校学習指導要領の改訂を告示し、新学習指導要領では小学校5－6年で週1コマ「外国語活動」を実施することを告示した。

しかし、英語でコミュニケーションが可能な力を養う英語教育は難しい。特に、小学校では将来児童が話すことが出来るような素地の作りのできる英語教育が必要と考える。そのためには、従来の読解式などの教育法ではなく、もっと脳と言語習得のメカニズムに基づいた教材や教授方法が必要と考え、その必要に応えるような入門期用英語学習マルチメディア・ソフト『Mika & Mike』の開発を試みた。

このマルチメディア英語学習教材は、脳のメカニズム、言語習得理論、コンピュータによる英語学習の利点、認知心理学的学習効果などを考慮している。

また、絵物語りとフォニックス理論を結びつけていることも、このソフトの大きな特徴である。経験が少なく、言語だけで情報に関与することが出来る十分な記憶ストラテジーを持たない児童が英語を理解できる方法や英語学習へのモティベーションを高められるような工夫を施した。
Appendix I

Flowchart of "はじめての英語 Mika & Mike"

Start screen

Alphabet chart

Click each pronunciation (e.g. apple) icon

Pronunciation of each word (e.g. apple)
Presenting movements of the mouth at the same time

Example sentences
Sentences using the word "apple" in the story (e.g. Mike is cutting apples.)

The stories (Main screen)
By clicking the picture (sun), the picture-talk show and English sentence are presented. A dictionary is incorporated for difficult words. One story for one pronunciation

Auto story
Begin picture-talk show

Game
Choose games

Bingo Game
Bingo game using items in the Alphabet

Picture Concentration
Concentration Game using items in the Alphabet

Alphabet Placing
Placing randomly ordered letters into the proper order

Bingo Game
Bingo game using items in the stories

Picture Concentration
Concentration Game using items in the stories

Word Finding
Find a word with [ ] as "apple" in the main screen

Phonics Grouping
Game to group phonics

Question Game
Game to answer 4 WH questions
Appendix II

A Curriculum with Activities and two Lesson plans

1. A whole curriculum for a Japanese elementary school

<table>
<thead>
<tr>
<th>A grade</th>
<th>1st—2nd</th>
<th>3-4th</th>
<th>5-6th</th>
<th>6th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal &amp; Objects</td>
<td>· A spoken language is touched fully.</td>
<td>· The shape of the capital letter of the alphabet and a small letter is discriminable.</td>
<td>· The name of a character and the relation of sound are known, only an easy word.</td>
<td>· Ss can read easy stories.</td>
</tr>
<tr>
<td></td>
<td>· The character which exists in environment is touched.</td>
<td>· Ss can say the name of a character.</td>
<td>· Learners can read the word of three characters. (Ex: -o-χ)</td>
<td>· Automatic decoding</td>
</tr>
<tr>
<td>The number of school days in a year</td>
<td>36 times a year, once a week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School hours</td>
<td>10 minutes (Warming up)</td>
<td>35 minutes (Activities)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. One-year curriculum in a Japanese elementary school

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Warming up</th>
<th>Story</th>
<th>Target letter</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Songs</td>
<td>A summer camp</td>
<td>A /æ/</td>
<td>Review</td>
</tr>
<tr>
<td>2nd</td>
<td>ABC song</td>
<td>Teatime at three</td>
<td>A /ei/</td>
<td>Silent reading</td>
</tr>
<tr>
<td>3rd</td>
<td>Phonics Jingle</td>
<td>A baseball game</td>
<td>B /b/</td>
<td>Answer the questions.</td>
</tr>
<tr>
<td>4th</td>
<td>Chants</td>
<td>A picnic</td>
<td>C /k/</td>
<td>Reading aloud</td>
</tr>
<tr>
<td>5th</td>
<td>BINGO</td>
<td>At a circus</td>
<td>C /s/</td>
<td>Some Ss challenge reading aloud.</td>
</tr>
<tr>
<td>6th</td>
<td>What’s this?</td>
<td>In the garden of Mike’s house</td>
<td>D /d/</td>
<td>T’s model reading.</td>
</tr>
<tr>
<td>7th</td>
<td></td>
<td>At the breakfast of Mika’s house</td>
<td>E /e/</td>
<td></td>
</tr>
<tr>
<td>8th</td>
<td></td>
<td>At an aquarium</td>
<td>E /i:/</td>
<td></td>
</tr>
<tr>
<td>9th</td>
<td>Ten Fat Sausages</td>
<td>At the farm in fall</td>
<td>F /φ/</td>
<td>A new text</td>
</tr>
<tr>
<td>10th</td>
<td>Animal Talk</td>
<td>A sports competition</td>
<td>G /g/</td>
<td>Prediction the content of the story as a picture with their the content schema</td>
</tr>
<tr>
<td>11th</td>
<td>Head Shoulder Knee and toe</td>
<td>The play on the stage</td>
<td>G /dg/</td>
<td>Group discussion</td>
</tr>
<tr>
<td>12th</td>
<td>....and so on</td>
<td>At a hamburger shop</td>
<td>H /h/</td>
<td>Some group announce the prediction.</td>
</tr>
<tr>
<td>13th</td>
<td>Ss master English through TPR</td>
<td>Some cats in the park</td>
<td>I /i/</td>
<td>Groups list up the words and compete the numbers.</td>
</tr>
<tr>
<td>14th</td>
<td></td>
<td>Flying a kite</td>
<td>I /ai/</td>
<td>Skimming</td>
</tr>
</tbody>
</table>
3. A lesson plan

- **Learners**: 5th-grade students in a Japanese elementary school
- **Class**: Class 2
- **Goals**: Ss will be able to read a simple story.

**Objects**:

- Ss will be able to understand the phonemic distinction between /æ/ and /ei/.
- Ss will be able to predict the meaning from a visual.
- Ss will be able to build the schemata of L2 culture.
- Ss will be able to recognize the vocabulary and the meaning of the text accurately.
<table>
<thead>
<tr>
<th>Time</th>
<th>Teaching process</th>
<th>Teachers</th>
<th>Students</th>
<th>Teaching materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Hello Song</td>
<td>Sing</td>
<td>Sing</td>
<td>Songs CD</td>
</tr>
<tr>
<td></td>
<td>Greeting</td>
<td>Good Morning.</td>
<td>Good morning</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Alphabet Song</td>
<td>Pointing the chart</td>
<td>Alphabet Song</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Games</td>
<td>Let ' race the games</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Alphabet order</td>
<td></td>
<td>Alphabet Chart</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Word BINGO</td>
<td></td>
<td>✪Compete the game with groups. Alphabet card</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Word Matching</td>
<td></td>
<td>Picture word card</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Review reading story 1</td>
<td>Instruct to read the story 1 silently. Ask some Comprehension questions.</td>
<td>Silent reading Answer the questions.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silent reading</td>
<td>Instruct to read the story aloud. Check their accuracy of the pronunciation, the intonation, and the segment in T’s model reading</td>
<td>Reading aloud Some Ss challenge reading aloud.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comprehension</td>
<td>First , show only a picture. Ask Ss what is written ?</td>
<td>Repeat after T’s reading</td>
<td></td>
</tr>
<tr>
<td></td>
<td>questions</td>
<td>What words can you say and write in English?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Reading aloud</td>
<td>SPQ</td>
<td>Group discussion Some group announce the prediction.</td>
<td>✪Prediction the content of the story as a picture with their the content schemata</td>
</tr>
<tr>
<td></td>
<td>Introduce story 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prediction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Word recognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>Skimming</td>
<td></td>
<td>✪Skimming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silent reading</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Read aloud</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Phonics Grouping game</td>
<td></td>
<td>✪Phonics</td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>Picture Dictionary</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Good-bye song</td>
<td>Homework: Read aloud</td>
<td>✪Vocabulary development in categorizing</td>
<td></td>
</tr>
</tbody>
</table>