

Contents and Strategies of Chinese Computing Skills Learning

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1. The limited scope of CALL and the necessity of a new syllabus

It has been more than twenty years since computers were used to assist language learning. Nowadays, a dramatic change can be seen in the contents and strategies of language learning as a result of the use of computers. As we all know, the capacities and functions of computing applications have been greatly improved during the last two decades and have helped to revolutionize the facilities and approaches in many different fields of learning. This essay intends to review the former stages of development in the use of computers in teaching Chinese as foreign language and discuss the necessity of establishing a new syllabus for Chinese computing skills learning.

Teaching languages with computers was invented before the CJK characters could appear on a computer screen. At the early stage, it was not widely used because computers were only available in computer rooms and, strictly speaking, not a personal equipment. Language teaching and learning with computers were initially marked by CALL, an abbreviated term for computer assisted language learning. It was not until the early 1990s that the Chinese word-processing came into use in some UK universities. But by then, Chinese software was confined only to produce neat teaching materials. The attempt to develop Chinese CALL materials started in the mid-1990s in a few British universities. Durham University introduced three Chinese Study-Aid applications to their first-year students in October 1993, followed by a short course for both Chinese learning and word-processing applications in 1994. By September 1997 when some European universities met in Aarhus, Denmark, the discussion began concentrated on which elements of the current teaching can be replaced by the use of computers. It was generally recognized that computers and available programmes could only take over a small part of teaching, and the traditional way of teaching Chinese was not going to be replaced by computers in a foreseeable future. The view was challenged at the Second International Conference on Internet Chinese Education held in Taipei in December 2001. The remarkable improvement by then was the development of many new Chinese learning applications, which were widely used by overseas Chinese to teach their children in Sunday schools abroad. The Internet facilities helped them to overcome some problems of teaching Chinese, such as shortage of quality prints of teaching materials and lack of interactive textbooks with suitable contents. But the conference attendants from worldwide universities still showed their doubt for an extensive adoption of the numerous newly invented electronic tools. They had good reasons to remain conservative because there was not yet any

computing tool or textbook that could replace the comprehensive Chinese teaching they were providing in universities.

In spite of this, teachers from universities are still continuously experimenting with computing tools to explore various possibilities of using computers to assist their teaching of Chinese as a foreign language. In the meanwhile, students' knowledge and skills in the use of computers are also growing rapidly. Most of them are now entering universities with certain computing experiences. They are expecting to use computers to learn Chinese if they have chosen to study the subject as part of their future careers. Having seen the wide applications of computers in our life as well as in our studies, teachers are now aware that the current CALL syllabus is insufficient to cover the various aspects of computing skills required by the new generation of students. CALL was initiated at an age when computers were used only as a classroom tool. Students were not expected to use computers at home during their self-study time or continue to use any electric tool to further their studies of the Chinese language. The name of CALL emphasized the assisting functions in its teaching approaches with its focus on the acquirement of obtaining the skills of the language rather than the skills of operating the tools. If a question of teaching efficiency was raised, CALL would have to justify its use by comparing two parallel groups to prove whether the CALL taking group had shown an advantage by applying the electronic tools. The results often demonstrated slight or unstable improvements in language acquisitions and were insufficient to persuade language teachers to adopt CALL in a wide range of teachings.

As computers have now become an essential household tool and almost every student has got a personal computer as an indispensable piece of stationery, the scope of CALL is obviously too limited and its boundary demands expanding and redefining. It should not only cover the use of tools in learning a language, but also include the use of computers to process the language whenever it is required. Because of this, a new type of syllabus needs to be created with a new name which covers both CALL and beyond. For Chinese language specialists, this could be called Chinese Computing Skills Learning or CCSL for short. As we can see, the new name no longer regards computers as an 'assisted' tool and emphasises on skills instead of language as its focus of learning. If the change is so radical, should we still count the new syllabus in our scope of language teaching and learning? In another word, should it be included in Chinese Studies or Computing Studies?

First of all, we need to justify the necessity of the new syllabus. As we know, all academic disciplines use computers as part of their working facilities. But the general computer studies could not be so specialised to deal with specific problems. Even in the studies of European languages, which have fewer problems in the process of alphabetic characters, they still need language experts to compile database and localize tools. With Asian languages, the text encodings

will be greatly different. The two parallel, as well as overlapping and multiple matching, script systems, namely simplified and traditional characters, will produce nightmares for non-experts. We often find two experts, one in Chinese and one in computer, get stuck in the middle of nowhere, facing a problem neither of them is able to explain it to the other. This urgently requires expertise in both fields to come for rescue. In addition, computer scientists and engineers find they have too much to do in their own newly emerging fields and are usually unwilling to be converted into language teaching experts. It is therefore obvious that the task of the new syllabus planning and designing will inevitably fall on the teacher of Chinese who has acquired some computing knowledge.

Secondly, we need to define the scope of CCSL to reveal it is still in many ways closely linked to language teaching and learning. The new syllabus needs to cover all the contents of CALL with the new awareness that all the applications introduced in class will be available after class in students' own computers. This could result in a complete rewriting of the old teaching materials and formats because the number of contact hours could be reduced or rearranged. In class, teachers will introduce the applications, emphasise on the skills, demonstrate some key exercises, explain certain language points and assign practice scope. After class, while students are working on their computers, teachers may have to use a monitoring system to check how well the students are doing. This is certainly a process of language teaching and learning with heavy involvement of using computers, a task more eligible to language teachers than computer engineers.

Having decided to undertake the task of CCSL, we are now responsible for finding out the contents of the new syllabus, which cover the Chinese computing skills foreign students need to learn when they are going to become a user of the Chinese language. But we have no references to a syllabus of this kind. What we have is a great number of software applications, websites, tools and databanks, providing an amazingly huge amount of information about how they are used in teaching. Therefore, we need to have a general review of these facilities and classify them into categories to see what needs to be used or taught in class. As far as their functions are concerned, they can be called character input tools, code conversion tools, vocabulary exercise tools, reading comprehension tools, translation tools, character writing programmes, listening texts, electronic textbooks, online dictionaries, etc. But this classification is still language-based and does not seem to have revealed the true nature of computerized applications. They are still clearly identifiable with the old patterns of teaching. If we pick up one of the products for one traditional aspect of teaching, we can as usual complete our task of teaching language points. But this is not all we need. We are expected to teach computing skills too. In another word, have the students learnt how to use a computing tool of this kind if they come across the same type of tools later. More seriously, have we introduced them to the con-

cepts of this tool or have they simply known which button to click by following the guide we provided? A new classification, therefore, seems necessary for us to decide what kinds of tools are suitable for use in teaching. According to my experiences, I divide applications roughly into two categories: tools and non-tools. The nature of tools is that it is an open application, in which the language texts are editable and replaceable. Teachers and students can easily integrate their own vocabulary and texts into the application in order to do the same kind of exercises as designed. On the contrary, the nature of non-tools is that the application is a fixed product with closed texts. The programmes in this category usually present a textbook in a form not very different from a paper book and with idiot-proof clicks claiming you can learn the text without having to bother with the computer. We do need both kinds of applications in our teaching, but it is important to know their differences and use them for different purposes.

The contents of the new syllabus are closely linked to the tools because part of your purposes is to teach how to use the tools. My assumptions here are much drawn from our teaching experiences in Leeds University, UK, in the past seven years. Our computing workshops run from beginners to intermediate levels and eventually involve MA students, some of whom are Chinese native speakers. But what I am going to present in the following is not exactly a copy of our curriculum. Instead, I shall try to work out what should be included based on my ideas of future improvement. I hope I can simultaneously describe both the contents and the strategies to be involved in our teaching and learning.

2. Contents and Strategies

At beginners' level, we start by using a Chinese character writing programme made by ourselves, which contains all the characters of our main textbook. This saves the character writing class we used to teach and students find the animated characters do help them memorise the strokes. The inadequacy of this programme is that students cannot participate in an interactive writing exercise which can correct their mistakes. This cannot be done without new technology and big funds. The programme is a closed type, but its components can be reorganized if we change our main textbook in the next few years. This could be done with the current technology and small funds.

The second thing to learn is to use a vocabulary exercise tool, also made by ourselves. This programme provides flash cards and multiple choice exercises of our main textbook, but the data resources can be replaced or extracted to form personal vocabulary lists. Students find this programme useful in helping them remember their vocabulary. It replaces the old forms of paper cards or notebooks and is able to merge and shuffle words in a random order so that learners can refresh their recognitions without being preoccupied by the answers. But the programme is still run in the double-byte character system and using a unique font for pinyin. Although it works properly in all the new ver-

sions of Windows up to XP and 2003, further improvement is necessary in order to improve its card editing and viewing specifications.

The third thing students need to learn is probably a Chinese character input application. There are a number of such applications available in the market, but some of them can only input characters of certain codes into certain word-processing applications. For example, Microsoft provides a Chinese IME (Input Method Editor) which can only input Unicode characters. Some non-Unicode applications may have to survive for some years and continue to be produced because they are small, cheap, quick to run and easy to create. In order to run everything, we purchased NJStar Communicator as an additional tool. Among the different IMEs, our students choose pinyin as they have learnt the phonetic system already. Learning pinyin input actually helps students not only to coordinate sounds with characters but also to compare different characters. Pinyin input in fact enhances Chinese character learning at this early stage.

The input tool has many aspects worth exploring in class. Spelling words instead of characters can lead to the correct concept of words in Chinese. The radical lookup table exposes both index and non-index radicals, so that the structure of characters could be better understood. Students can turn on 'Input with Tones' to test their pronunciation or use 'Lian Xiang' function to find words associated with certain characters. They can also create their own glossaries and manage their own phrases, which not only speeds up input but also encourage them to collect some proper names often used in Chinese. These skills appear in other input tools, so it is important that students understand the concept of design. We usually have to introduce the skills one at a time and some could be left when students have become more advanced beginners of the language.

The fourth tool we use is an interactive website for online reading. The flexible learning unit of Leeds University has created a virtual building on Internet in which we have created rooms for our Chinese languages exercises of different levels. The rooms can be used as a pigeon-hole to deliver messages to a group of students, a download site to distribute an exercise paper, a questionnaire, a short answer book, etc. But most of all, we use it for multiple choice questions. Students can log in to the website to do exercises we uploaded either anywhere on campus or at home, or even during their year abroad. The design of the tool allows teachers to control the way of distribution and delivery. We can restrict a certain exercise to be seen by a certain group of students at a certain time and to be done many times or only once. We can decide whether and when students get only a mark or all the answers after their completion of the exercise. As the papers are electronic, they do not need marking at all. Teachers can copy the automatically generated table to record the individual and average marks.

Apart from the tools we possess, we also make an extensive use of many Internet facilities. There are a lot of websites providing Chinese learning pages,

but a small selection of them is needed for students of all levels, especially for beginners. The selected websites need to be commented with practical guidance to direct students not only to the right pages but also to the right way of approaching information. In another word, they are given a suggestion on how to do exercises by effectively using the website information, which contains additional textbooks with new words, grammar points and exercises annotated in English, and conversational dialogues in both sounds and scripts. All this broadens students' observation of the Chinese language in use and enhances their learning.

At intermediate level, emailing is the first problem to deal with because most students have already known something about it. In recent years, we almost had no beginners in this technique. All students have been a user of email, and some of them are able to send and receive Chinese emails. But when they return from China, they find their English Windows sometimes cannot read Chinese. At this stage, a basic knowledge of code pages needs to be introduced, which should be followed by a practical section of using a code converter; such as NJCom Universal Code Converter. This technique is also introduced to teachers who are compiling reading materials in simplified or traditional characters.

Multiple choice questions are suitable exercises for beginners. This kind of exercises could be created for intermediate learners, but it could be a painstaking effort to produce 75% incorrect answers in order to make the choosing exercises valid, which does not really promote reading. At this stage, reading should be assisted by online dictionaries, which can give students easier access to new words than paper dictionaries. While we provide, recommend or produce electronic texts as reading materials, we give students instructions on how to use online dictionaries such as Dictionary Lookup or Jinshan Ciba, programmes available in Internet or Chinese market. The key issue is to help them understand how to compile their own dictionary by using Internet resources and personal collections. This is also a very important technique for teacher's training. We are planning to create a dictionary tool of our own when we get some funding.

From intermediate to advanced levels, students are expected to produce written texts in Chinese, such as writing compositions and essays, publishing a society leaflet, putting up a public notice and a personal website or applying other useful word-processing skills in an internship placement. We introduce them to more advanced Chinese input skills, which not only involves different IMEs but could also be extended to different tools and skills such as scanning and editing. Pinyin text input is facilitated by teaching students how to install a Word template created by us and use shortcut keys to access the toned characters already available in the Windows fonts. While they are aware of the font problems, they will get further instructions on how to apply Chinese desktop publishing (DTP) skills to polish their presentation. In addition, they learn how to convert Chinese

characters into pinyin scripts, and change different pinyin scripts into their preferred standard format. As these skills are useful in producing handouts and textbooks, teachers also need similar trainings.

The use of Internet at this stage needs further enhancement. By now, all students know how to search for Chinese information and copy texts from the resources. As they have learnt how to use a code converter, they can change the character format if necessary. But few of them are very good at using some advanced search skills or language tools. Our workshop shows them more efficient ways of approaching Chinese information by using Internet as a corpus dictionary, or a source for translation of new terms, for broadcasting scripts, for comparative reading materials of translated texts, for topical issues and for automatic translation service. Students are usually not aware of how Internet can help them to learn as well as to have fun. But after some relevant practice, they will learn how to use a corpus to learn the usages of a certain word or phrase, how to improve their listening and translation skills, and how to extract information from an automatic translation or how to control the source language to get closer to a right translation.

At the MA level, computing skills learning is no longer concentrated on learning Chinese as a foreign language. This is firstly because students are not entirely learners of Chinese, but have mostly become users of two languages, with either English or Chinese as their native language. Some of them continue their studies in language-related programmes such as translation and interpreting studies, and others are doing research in Chinese political and economic studies. At this stage, most of them still need computing skills support such as learning to use research and analytic tools to extract the gist from a long article. For the moment, this kind of tools is running well in English. We need to explore the same kind of tools in Chinese in the future. But for those who are doing translation studies, a support course will definitely not be enough. We are providing a full core module for them to learn computer assisted translation (CAT).

Different from machine translation, CAT offers a series of new skills to present-day translators. It involves terminology management, translation memory, programme localisation, project management, etc. As the contents of CAT no longer focus on foreign language learners, I prefer to leave it for a different discussion. But I wish to point out that some of these skills may have to start from lower levels in a few years' time, because my experiences have shown that year by year students' computing skills are rapidly improving.

3. Conclusion

These experiences of mine lead to my conclusion after I have tried to identify what should be included in the new syllabus of Chinese computing skills learning. I believe what I have mentioned and argued above is essential to the basic

training. But I also assume there are some other important things to learn as this topic has not been discussed as a syllabus issue among Chinese computing teachers. Apart from successful experiences, I know many difficulties in running Chinese computing training. A computer has become a routine tool now, so that students' imaginations are always bigger than their skills. They tend to believe they can do a lot of amazing tricks at their finger tips by simply clicking the mouse button. They think the click represents their power, but are hardly aware that it could also represent their ignorance if they do not know why something happens. To transfer such a high imagination and powerful feeling into a laborious mission is not an easy job. Some students are ready to call a tool stupid instead of blaming themselves, or are easily satisfied with the results instead of with the understanding of the rules. A professional training is inevitable if they want to learn how to deal with all this by rules, but not by chance.

I also understand that computing skills training has to be updated together with the improvement of technology. Some problems in training today may be solved by an update of the computer equipments tomorrow, so some techniques will become obsolete but new tools with new techniques will emerge. While this keeps teachers busy updating teaching materials every year, it will make a stable syllabus impossible to maintain. Teachers of different places have different approaches to the same problem or the same approach to different problems according to their own facilities, assistances and requirements. But if we have opportunities to communicate to one another and exchange our ideas, a general outline of a syllabus can be commonly accepted. We have all started teaching computing skills to our students and we need to find out how this teaching can be tested and compared with others. If we want some standards to recognize the new curriculum, a network of dialogues should be established in order to formalize some key topics where our practice has already been abundant.

提要

中文电脑技能训练是国际汉语教学中的一个新课题，它超越了电脑辅助语言教学的范围，在课程内容和教学方法上都有新的突破。本文旨在讨论学生在学习汉语的不同阶段，需要同时学会哪些电脑技能，如：软件应用、文字加工、词表管理、电子通讯、信息搜索、编码转换、文本翻译等；并对这些方面操作工具的性质、功能及制作进行分类和述评。希望以此作为中文电脑技能教学大纲的设立打下基础。