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Self-Directed Learning: An investigation of how social studies teachers in Singapore learn at Work

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Introduction

Learning is about a great deal more than acquiring knowledge and developing skills. If learners do not develop the capability of directing their own learning and acting on the world around them, they will be only partially educated, and limited in what they can do. To be successful at work, adults ought to be self-directed in learning in order to equip themselves with new knowledge necessitated by the rapid changes that the world is experiencing today. The fast developing computer technology of the last decade has brought about both motivation and convenience to self-directed learners. It has also resulted in many young learners choosing to use IT-based materials for self-improvement in their interested areas or to earn extra qualifications through the open learning concept. There was also increasing attention given to staff development at all kinds of workplaces. As a result, self-directed learning has been given a greater emphasis. The continuing educators are concerned about the approaches toward self-directed learning. Is there a need to add an IT dimension into the traditional approaches to self-directed learning?

In the past, self-directed learning (SDL) has been defined in very diverse ways within the adult and working place education literature. Some definitions associate self-directed learning with tightly circumscribed activities, like programmed learning (Gerber et al, 1995). Others are much more open-ended, emphasising independent learning by any means. Nevertheless, nearly all ideas of self-directed learning are closely linked with continuing education and vocational training. For example, two decades ago, Malcolm Knowles (1975) described self-directed learning as “a process in which individuals take the initiative without the help of others in diagnosing their learning needs, formulating goals, identifying human and material resources, and evaluating outcomes.” His theory is still practised today by adult learners at their work place - self-learning in an informal way. In the school environment, self-directed learning may be defined differently. The teachers in this study attempted to define self-directed learning from the perspectives of the sources of motivation for their learning and the purposes of learning. It is surprising to note that to many of them self-directed learning has little value towards promotion. Self-directed learning is strongly and solely related to intrinsic motivation and self-satisfaction. In this way, structured courses which aim at improving teachers do not have a place under the self-directed learning umbrella if the teachers were asked to attend these courses without any motivation of their own.

A study of self-directed learning of social studies teachers

The Sample

A study to understand social studies teachers' experience and conceptions of self-directed learning in their workplace was conducted in fifteen selected primary schools, involving 21 social studies teachers with different experiences in teaching the subject. Their age ranged from 24 years old to 50 years old. All of them were qualified trained teachers. This range was chosen because it

was assumed that different schools had different work environments, better or bigger schools might have more efficient policies, better resources etc. for staff training. Better opportunity might also exist for some school teachers because of the greater emphasis given to staff development by the principal and/or the school authority.

Most recently, MOE has given a lot of importance to professional training and development of teachers and has made it compulsory for all teachers to attend a hundred hours of training at their job per year. All these efforts would affect the individual teacher's thinking and conceptions about self-learning at their workplace.

Methodology

The method used in this study is a qualitative one, and is partly inspired by the phenomenographic approach. This means that the study focuses on the individual's conception of the phenomenon under study. That is, how the phenomenon of self-directed learning for work presents itself and how it appears to the individual. The data are collected from twenty-one individual interviews each of approximately one and half hours duration. The interviews were conducted by researchers with experience in conducting phenomenological interviews as described by Kvale (1995). A series of questions were devised to elicit how the individuals perceived learning for work and the contexts surrounding it. Since the data were obtained from the interviews, the researchers have to bracket their own experiences and beliefs about the phenomenon of learning for work to obtain the fullest understanding that each interviewee has about it. These actions and the adherence to other phenomenological principles as detailed by Gerber (1993), form the basis of validating the data collection process.

The questions used in the data collection of this study were adopted from a Swedish study which were proven to be effective and modified to suit our context. These are:

1. Can you tell me about your job as a social studies teacher in primary school?
2. How do you learn what you need to know in terms of skills and knowledge in teaching social studies?
3. What do you mean by self-directed learning?

Responses were obtained through the use of semi-structured interviews which were transcribed verbatim. The transcriptions were checked closely to ensure that the correct statements had been captured in the transcribing process. The transcripts were then pooled and a detailed qualitative analysis was completed using the normal procedures for phenomenographic studies.

The analysis of the collective data from the 21 participants in the study revealed seven qualitatively different conceptions of learning in the workplace and a mixture of approaches they utilized in their respective learning, on the basis of, and in relation to their varying experiences. Some participants expressed more than one conceptions and approaches. The conceptions are:

1. learning through mistakes, trial and error, and personal experience
2. learning through problem-solving
3. learning through published resources such as teachers' guide and other references
4. learning through the information from the internet and other multimedia sources
5. learning through the process of collecting data for social studies project
6. learning through interaction and teamwork
7. learning by attending workshops and fieldtrips related to social studies

1. Learning through mistakes, trial and error, and personal experience

The teachers who were interviewed were of the opinion that no one is perfect and so it is normal for them to make mistakes sometime during their work. Especially on teaching strategies, one teacher expressed that one would not know whether a particular teaching strategy worked or not. Therefore he/she would have to try it out. In this process, he/she would encounter difficulty or even make mistake. But these negative experiences were very necessary to learning in the teaching

profession. Of course, the learning did not occur in the making of the mistakes itself. Rather, it occurred through the effort to correct the mistakes and the realisation of the nature of the mistakes. One teacher called it "learning the hard way." It became very important to some of the teachers who adopted a personalised approach to learning at work.

According to this conception, the trial-and-error experience would result in positive learning. The negative experiences were appreciated by these teachers because they served as reassurance of their capability in self-directed learning and positive achievement. The drive to achieve a deeper understanding of their learning is enhanced by the teachers' strong individual self-discipline and levels of motivation. As expressed by one teacher:

"... there is no choice ... if you want to learn, you need to try it out, you need to learn through practice, try out methods and decide which one suits your needs... no one can tell you the answer... we, teachers feel that in our job, self-directed, trial and error learning is very important. Very few teachers can or knows how to teach effectively or have enough knowledge to teach at the beginning of their career, but by experiencing difficulties for one year or so, they become familiar with the stuff ... it is a continuous process of self-learning... when new curriculum appears, teachers try them out again... but they need a lot of motivation ... "

Self-discipline is considered by the teachers as very essential as learning gets tough at a higher level. Motivation is the key to self-learning. A teacher expressed that one needs "to be daring enough to put theory into practice and learn how to make it work by trial and error method if he wants to win the world and to become a good teacher". Therefore according to his conception, teachers treat learning at workplace as a continuous experience of "trial-an-error". In this way learning takes place through translating negative experiences into positive outcome.

2. Learning through problem-solving

Learning through problem-solving was seen as an important approach to learning in the workplace. It was a form of learning that was developed for some workers during their pre-vocational studies which was later used widely in their work practices. Though developed for mainly workers in the private sector, problem-solving is also practised by the teachers in the school environment. Teachers are problem-solvers to a certain extent. They viewed problem-solving as part of their job which inevitably would result in learning. This was confirmed through the interview of one teacher who stated that

"teachers like to offer solutions to problems, especially problems regarding students' learning and their attitudes towards learning. Sometimes teachers also need to solve academic problems. They often have a solution to any problem. If the first solution does not work, teachers often attempt to understand the whole picture more deeply and come out with a second solution. They believe that the result of problem solving is learning, learning the hard way. They definitely learn from a course.... I myself enjoy problem solving because it seems to me a challenge.... Not only that it helps me to understand the problem and learn the answer... and so on....."

In the work context, the solving of problems is something which may happen on an individual basis, but it also occurs in a work team. Here, the concept of shared leadership is emphasised as decisions are made across the work team to produce an effective solution to a specific problem. In social studies, team work is encouraged. Thus it is normal to involve team members in problem-solving practices in social studies. And the learning which takes place is a result of interactions among team members.

3. Learning through published resources such as teachers' guide and other references

Work done in self-directed learning in a workplace which is not an institution of learning seldom showed that workers learned through published references. It is typical of the academic world where teachers, lecturers and professors conceptualise self-directed learning as motivated

learning through reading. Within this conception, learning can take place in many ways in a school setting. However, all respondents believe that published materials are important resources for their self-learning at the job. The teachers' guide is found to be the most ready source of reference when a teacher faces difficulty in content knowledge or teaching method. This is confirmed through the discourse of the interview with one of the participants.

"I read up journals, articles, newspaper, magazine, watch documentaries, both local and overseas productions, look up encyclopedias, CDROMs, brochures, visit places of interests - collect materials like pamphlets, buy artifacts, where possible, collect old things used in olden days-set up a mini-museum in SS corner.... I used the materials collected when I need help... I learned particularly in this way in my job as a social studies teacher. The most important guide book is our teachers' guide... every teacher uses it to learn how to teach better...printed materials are most frequently used to help us learn...."

This teacher has been teaching the subject for 15 years and she considered reading up for herself as the most effective and convenient way of learning at the job. When the interviewer asked her if she knew of any approaches in self-directed learning proposed by educators in continuing education. She responded negatively. All the while, she learned in her own ways without realising that there ever existed structured approaches for doing so. She considered the new social studies syllabus as an agent of motivation because it touches on current issues and various aspects which interest both teachers and students. For instance, the study of our ways of life, the various festivals we celebrate and so on are very interesting topics to learn.

Other respondents also agreed that pre-reading on relevant topics from published materials formed an important conception of self-directed learning among social studies teachers here. Some teachers suggested that what they needed to learn from these reading materials were in fact not so much factual content but various ways to teach, i.e. searching for rewarding teaching strategies that they needed to learn to become better teachers. A few teachers responded that they referred to books, newspaper, visited the library as one of their means of learning at the job. This group of teachers strongly held the opinion that "motivated reading" formed an approach to help them to improve performance at their job. Some even took it for granted that self-directed learning to them is equivalent to further reading to improve themselves.

4. Learning through information from the internet and other multimedia resources

The advancement of technology has revolutionised the world of learning. As one teacher said during the interview, "there is so much information up there!". Both students and adult learners believe that the internet is an ever ready library for them. It is a matter of how to use it. Respondents described learning at their job via internet as the most interesting and rewarding approach. In this way, they were not limited in their search for knowledge. The teachers interviewed complained about the lack of reference materials at their school library. They were more than happy to use the internet as the alternative. While the trend of surfing the net for information is becoming more obvious, some of the primary social studies teachers were still very unfamiliar with computers. They do not have access to the internet. However, through the discourses with the interviewees, the conception of self-directed learning as learning through internet and other multimedia resources such as CD-ROMs, has been made very clear, as described by one teacher,

"..... nowadays we surf the net for everything... I can find enormous amount of information about social studies.. I learn from there... I can print out the information for my students. But there must be the drive...to learn how to use it. Its is very time consuming but that this is worth it. In the future, I suspect, it would become the most convenient way of learning at the job.... To me now.... I learn from internet... I call it self-directed learning."

5. Learning through the collection of data for social studies project

Social studies is a special subject in school in the sense that it is non-examinable subject. Therefore it is assessed differently from other subjects. All the teachers interviewed suggested that they did project work at school. Social studies projects involve students and teachers to carry out mini-research on interesting topics related to our daily lives. Some examples are: Places of interests in Singapore, Bukit Timah Nature Reserves, MRT services, Changi Airport, hydroponic farming, Peranakan culture etc. In carrying out the research with students, this group of teachers suggested that they learned with the students. It was motivation and part of their job that landed in learning the extras which were useful and could be considered as life-long learning. One of the teachers interviewed expressed that:

"I was very poor in terms of knowledge... some knowledge you have to acquire at your job one way or another... You don't learn from books or from your education at school. I was doing a project on services at our neighbourhood. We visited the neighbourhood police for more information on this project. My students went to collect information and interviewed people working at the neighbourhood police. We found out a lot about the neighbourhood police, their services and why they are important in our neighbourhood.... These are the things we can't learn from anywhere... but through our research work in doing the project, we learned them. Some of the things used by the police to identify criminals and a lot more information for the children to digest and to understand the values of being good ... also the consequence of committing a crime.. I learned that it is so easy for children to fall into bad gang and commit crime.. but it is also so easy to teach children to avoid committing crime by teaching them the right thing and the result of being a criminalI did other project too.

Well.. I learned a lot Sure... a lot from these projects... they were so realistic."

While a project is assigned to the students, they need a period of time to do their mini-research. Teachers would be ready whenever they need help. Sometimes teachers also organise fieldtrips for the students in relation to the project assigned to the students. Students make use of this trips to collect data. For newly trained teachers, fieldtrips and project work form good experiences for learning at the job.

The conception of learning through project work in social studies is not new. As expressed by one teacher during the interview:

"I like teaching the subject... when I first became a teacher nine years ago, I was asked by my principal to teach social studies - a subject which I had no idea about it then. I read the syllabus, textbooks... I agreed. When I taught, I faced problems because I did not know the history of Singapore well enough... I am not familiar with most places to conduct fieldwork... I did not know how to supervise a project work... but when I started, I found enormous amount of stuff that I could learn from doing the projects with students.... Then I asked my students to do a project every year. It was fun.. We tried very hard to collect relevant data... through sieving and filtering the data we learned the topic well.... That was how I learned at work when I was first asked to taught social studies... of course, now I am familiar with most of the contents.. but things change very fast... project work is still a good way to learn new things at work..."

The conception of learning through students' project work for social studies is expressed by only a few of the teachers interviewed. These teachers shared the views that there is much to learn from it.

6. Learning through interaction and teamwork

Learning through interaction and teamwork is a common conception of self-directed learning among workers in private companies. Research in self-directed learning in a work context by Rod Gerber et al in Australia suggests that there was really no limit to the ways by which workers learned informally in their work place through interaction with others. Likewise, teachers in this study also admitted that there was a great deal of informal learning through mere interaction with other teachers, who might be more experienced or less experienced. A teacher said that it was not a matter of experience, but rather the sharing of experience which resulted in positive learning. This conception of learning was characterised by close interactions among teachers teaching the same

subject or different subjects. The interpersonal observation and communication were seen by many teachers as the crucial means for learning more effectively in their work environment. A first time teacher always interact with other colleagues about work matter which he ought to learn in his job. This study shows that teachers feel satisfied with this approach of self-learning at workplace. How to teach is regarded as not a simple thing. One has to learn more about it while at the job. The purpose of having student teachers to observe lessons conducted by experienced teachers before their real teaching practice is based on the belief that there is much to learn by oneself through observation and interaction at the workplace. Formal interaction acts as a re-enforcement of learning. "Sharing information with colleagues" has been identified as a common method of self-directed learning among social studies teachers in this study. When asked about the reasons of believing this to be the most effective way to learn at work, some teachers took it for granted, as suggested by one teacher, "in life, we learn from friends and colleagues... at work, it is just the same." By talking to an expert, people believed that one can learn new techniques much quicker than from trial and error or by reading a book.

In social studies, we encourage team teaching - two specialist teachers conduct one lesson together. After the lesson, the team members come together to discuss the lesson. In this way, the interaction between them serves as the basics for learning to occur. To a certain extent, this kind of formal interaction is very effective. Learning through team work can be experienced in a range of ways: through observing others, by talking with others, as a member of a work team; as the leader of a work team; and through knowing the personality of others. Teachers in this study held the opinion that this conception of learning through interaction has life-long effect and implication.

7. Learning by attending workshops and fieldtrips related to social studies

In Singapore context, teachers attend workshops and inservice courses regularly to keep them informed of new developments in education, in educational thinking and in teaching strategy. Therefore this kind of structured training has been regarded by teachers as the most acceptable form of learning at work. They do not have to think about financial and time constraints. Instead they will also be guided in their learning by experts.

All the teachers interviewed expressed that they have attended more than one workshop since they started teaching social studies. They also revealed that these workshops provided them structured learning. However, some considered them as forced learning as against self-directed because they were nominated to attend these workshops. All conceptualised that they learned from attending workshops, and regarded it as an important way to improve themselves at work.

Fieldtrip is compulsory in the primary social studies curriculum. Experienced teachers conduct meaningful fieldwork for junior staff in some schools. They are meant to improve the teachers' knowledge and skills in fieldwork. In general, teachers conceptualise it as an important means of learning at their job. As expressed by one teacher,

".... We must learn how to conduct fieldwork. Follow other teachers who have experience in doing it and you learn from there. It's important to join school fieldwork activity no matter whether it is conducted by social studies or science etc. ..."

Another teacher referred to the experience in fieldwork as "learning in the field". He said,
 "Certain knowledge you don't get it from books... you don't get reference materials for everything. Visit the place and see it for yourself or talk to the people there. You learn first hand knowledge. I think this is what I mean by self-directed learning in social studies."

The conception of self-directed learning as learning through fieldwork is not only common among teachers. Many organisations also conduct fieldwork for their workers to familiarise them with certain aspects of their work. Through taking part actively in it and reflecting on the experience is by itself meaningful and self-directed learning.

Discussion

The ways in which experienced teachers learn in their jobs have been of considerable interest to researchers. It is believed that while teachers do adopt a series of informal strategies to learn in their profession, they still required formal training in some areas. Therefore some schools have

staff development programmes which may consist of seminars or a series of seminars conducted by experienced teachers for all who need them. Through these formal "staff development" programmes, teachers believe that they would improve their teaching. However, this study indicates that self-directed learning among social studies teachers takes place in many other forms too. It is the individual teacher's choice of which way to follow. Some teachers learn at the job all the time through personalised approach which was grounded in their motivation in personal development, rather than part of the broader programme organised by the school or by MOE for development of teachers in their profession. There is certainly a strong bias towards this personalised way of self-direction in their learning at work. The teachers found self-directed learning as a natural way to cope with work and changes. Their motivation in and strategies for self-directed learning accounted for much of their effort to update themselves at their workplace.

This study shows seven conceptions of self-directed learning in social studies. Figure 1 below is a space diagram showing these conceptions and their links with each other.

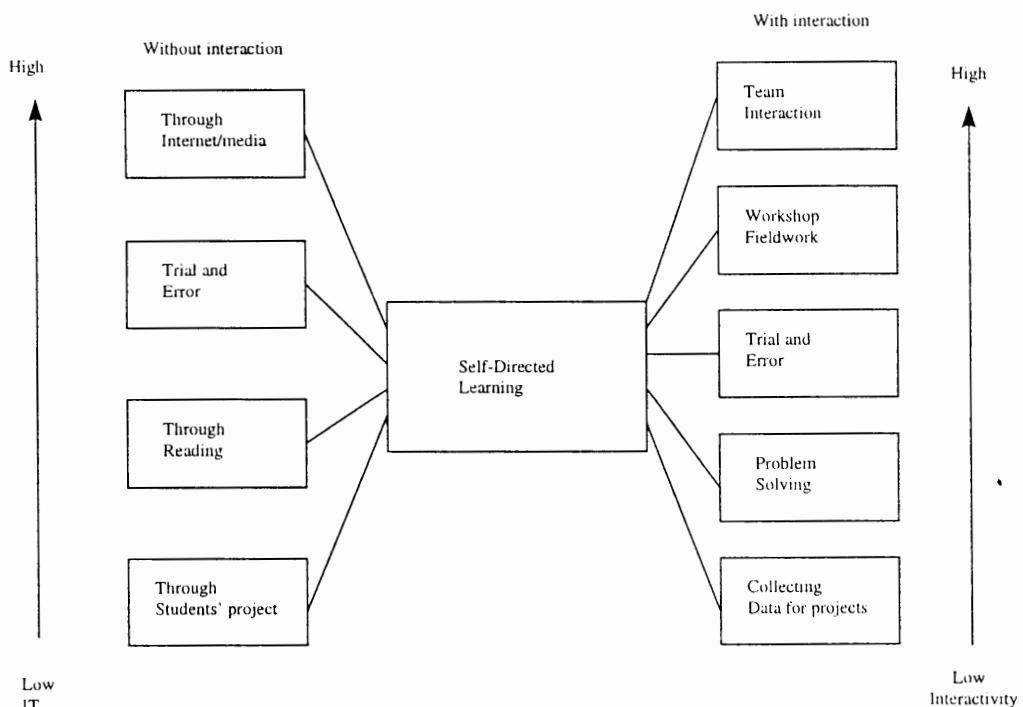


Figure 1 : CONCEPTIONS OF SELF-DIRECTED LEARNING IN SOCIAL STUDIES

Figure 1 shows two major conceptions of self-directed learning in social studies at school. The first conception concerns interacting with others; the second conception concerns personalised learning which does not involve direct interaction with others. The first conception is made up of five separate levels (minor conceptions), hierachically ranked from high and better structured interaction to low interaction. For example, team interaction involves team work and feedback from each team members followed by formal or informal discussion. Teachers considered this conception as very important as far as self-directed learning in the school environment is concerned. All the teachers interviewed held the common opinion that the various levels of interaction were necessary, especially when they were new in teaching the subject. This learning as expressed by one teacher, is "real and life-long" - something that they did not learn from books or from the broader education system. The second major conception attempts to define self-directed learning of social studies teachers at school as private learning, involving very little interaction, if any. The conventional way of self-learning through reading has changed, especially so with the

teachers. Even though, as expressed by one teacher that he read the teachers' guide very frequently, and found it very useful to help him to improve his teaching, the teachers were very much influenced by the advancement in technology in education. A few teachers expressed that the use of internet and other electronic media resources form part of their source for self-directed learning. Thus figure 1 shows the conceptions of self-directed learning which involved very little interaction arranged hierarchically from low application of IT to high application of IT. The two branches of conceptions as shown in this space diagram indicate that social studies teachers conceptualise self-directed in two distinct ways which are related even though there are some overlapping areas. This is to say that a conception which does not involve interaction may sometimes or at a later stage involve interaction. For example, learning through trial and error occurs by oneself when he/she realised where the mistake lied and how to avoid the mistake in the second trial without discussing with a colleague. However, trial and error may also involve another teacher if the first teacher consulted a colleague about his mistake and the learning only took place after consultation and or direct discussion with him/her. The implication from this study is that teachers today recognised self-directed learning as an important part of learning which has not been very much researched. This result should provide relevant authority ideas of the current needs of teachers in their self-learning at work - the access to internet materials etc. Other than that, it also provides a clear picture about the conceptions of self-directed learning among social studies teachers in the primary schools.

In the private sector, self-learning is very important for staying on the job. The daily routine on the job serves as important part of training and this experience is vital to all employees. It has to be learned by oneself once he is there, something that one does not learn directly from formal education. Whether one likes it or not, he has to learn it immediately. In the school environment, teachers are equipped with knowledge and teaching methods before they enter the profession. Their conception of self-directed learning therefore focuses on what else they need to learn to improve their performance. In other words, the actual teaching or hands-on needs to be regularly improved. Teachers are now very conscious about self-directed learning. They feel that learning at the job help to fulfil their needs to be better teachers.

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