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LEARNER AUTONOMY THROUGH COMPUTER MEDIATED COMMUNICATION (CMC)

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Abstract. Education in Malaysia is fast becoming a "wired enterprise." The integration of Information and Communication Technology (ICT) in course offerings in institutions of higher learning (IHL) is seen as the catalyst towards producing lifelong autonomous learners. Hence, Computer-Mediated Communication (CMC) is seen as the tool to assist learners in acquiring information at their fingertips anywhere and anytime. This paper employed a descriptive research methodology to investigate learner autonomy via an online distance-learning program. The research instruments used included survey questionnaires, semi-structured interview protocols and email interactions. The sample population for this study entailed purposive sampling where one intact class of first year students pursuing the B. Ed. (TESL) course in a local university offering online distance learning was selected. Initial findings indicated that first year university students generally, did not consider themselves to be truly independent learners capable of managing their own learning. In fact, their responses in all aspects of learner autonomy abilities viz. planning, organizing, monitoring, evaluating and computer usage recorded moderately positive responses. In lieu of this,if today's tertiary students are required to participate through CMC, it is the responsibility of educators and IHL to systematically guide and provide learners the skills, tools, attitude and knowledge through learner training programs on how they can learn to take responsibility for their own learning.

Keywords: Learner autonomy, Computer-Mediated Communication (CMC), asynchronous learning, online interactions

Abstrak. Pendidikan di Malaysia kian menjadi satu perusahaan berwayar. Pengintegrasian Teknologi Maklumat dan Komunikasi (TMK) dalam kursus yang ditawarkan oleh institusi pengajian tinggi dilihat sebagai pemangkin dalam melahirkan pelajar terarah kendiri sepanjang hayat. Dalam hal ini, Komunikasi Berasaskan Komputer (CMC) dilihat sebagai alat yang dapat membantu pelajar memperoleh maklumat di hujung jari pada bila-bila masa dan di mana sahaja. Kajian ini menyiasat autonomi pelajar melalui program atas talian jarak jauh. Instrumen kajian yang digunakan merangkumi tinjauan soal selidik, protokol temuduga separa berstruktur dan interaksi mel elektronik. Sampel populasi kajian pula melibatkan persampelan bertujuan apabila satu kelas pelajar yang mengikuti B.Ed (TESL) di sebuah universiti tempatan yang menawarkan kursus secara atas talian dipilih sebagai sampel kajian. Dapatan awal memperlihatkan bahawa pada dasarnya, pelajar tahun satu tidak menganggap diri mereka sebagai pelajar terarah kendiri yang berupaya mengurus pembelajaran mereka. Malah, maklum balas mereka terhadap semua aspek autonomi yakni merancang, mengurus, memantau, menilai dan kebolehan mengguna komputer hanya mencatatkan respon sederhana positif sahaja. Justeru jika pelajar tertiari dikehendaki melibatkan diri dalam pembelajaran melalui CMC,

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maka para pendidik dan institusi pengajian tinggi bertanggungjawab memastikan pelajar dibimbing secara sistematik dan dibekalkan dengan kemahiran, alat, sikap dan pengetahuan melalui program latihan pelajar tentang bagaimana mereka boleh mengurus pembelajaran mereka.

Kata kunci: Pelajar terarah kendiri, Komunikasi Berasaskan Komputer (KBK), pembelajaran tidak segerak, interaksi secara talian

1.0 INTRODUCTION

As institutions of higher learning (IHL) struggle to compete for students locally and worldwide, the demand for new delivery systems and learning media has become more urgent. In line with anticipating a future when more students will require more independent learning, new technologies and opportunities are being developed and explored by IHL to capture student interest that allow greater flexibility, autonomy and learner-centeredness yet does not diminish students' learning experiences. This calls for a change in the way education can and will be delivered. Hence, the use of networked communication technology via the Internet and Web in education can no longer be considered optional but a necessity.

In response to these educational needs, the latest technological tool to invade IHL and one that is fast becoming commonplace is Computer-mediated Communication or CMC (Jonassen *et al.*, 1999, Selwyn 2000, Harasim 2000, Bonk 2004). CMC will play a vital role in empowering individuals towards achieving democratisation of knowledge in education. In fact, it is seen as the catalyst of change that will help to converge technological, instructional and pedagogical developments (Bonk & Cunningham 1998, Bonk 2004). These technologies will pave the way for new opportunities in online learning environments in the future. The importance of this convergence cannot be denied as it will help more people embrace lifelong learning as a way of acquiring, improving, and updating their knowledge or skills throughout life via education, training, work, and general life experiences (Rohani 2005). Through the integration of CMC tools in IHL, it is hoped that ultimately it will pave the way towards creating autonomous lifelong learners and knowledge workers capable of controlling their future and destiny in pursuance of continuing professional development over the course of their life span.

1.1 Overview of Computer-Mediated Communication & Learner Autonomy

The next pertinent question that comes to mind is, "how can CMC help learners achieve learner autonomy?" According to Shrader (2003), the answer lies in learner empowerment. The ultimate goal of adult education is self-directed learning or learner autonomy (Mezirow 1985, Brookfield 1986, Alagic *et al.* 2004). Therefore, the purpose of education in formal and non-formal learning environments must seek to develop attitudes that foster the development of autonomous learners throughout life. This

means that learners must be equipped with a repertoire of skills, competencies, knowledge and attitudes that promote learner autonomy and learner empowerment as this is "often the key to economic expansion...." (Special Committee on Higher Education, 1996:1).

Over the last two decades, ideas of learner autonomy and learner empowerment have taken centre stage as the responsibility of learning has shifted from the teacher to the learner. This paradigm shift in learning which is less devoted to rote memorization of facts but more to learner-centredness is dedicated towards promoting independent and self-directed learners. The overarching principle in this new paradigm shift is to help learners 'learn how to learn'. Learning how to learn means to build up learners' "capabilities to learn independently (e.g. creative and critical thinking, mastering of Information Technology, Communication), to become self-reflective on how to learn and to be able to use different ways of learning..." (Curriculum Development Council 2000: 3). All these skills have been identified as components of autonomy. One tool that has been closely linked with aiding the development of learner autonomy is CMC.

In lieu of this, what is CMC? According to Santoro (in press), CMC is an umbrella term that subsumes computer based instruction, informatics and human-to-human communication. Berge and Collins (1995) further defined CMC as "the use of computer systems and networks for the transfer, storage and retrieval of information among humans....the computer/network system is primarily a mediator rather than a processor of the information" (1995:11). In the realm of CMC, there are basically two modes of web based communication i.e. asynchronous (delayed, any-time, any-pace, any-place) and synchronous (same time, real time) through a computer technology that "combines computers, modems and telephone or electronic network linkages" (Hiemstra 1994:12). Compared to synchronous communication, researchers argue that asynchronous communication gives learners more time to reflect on their own ideas, which supports critical thinking and learner autonomy (Bonk *et al.* 1998, Gunawardena *et al.* 1998, Swan 2001, Jonassen 1999, Harasim 2000). Today, both these preferred modes of learning have helped to enhance and support the development of autonomous lifelong learners (Knapper 1988, Yumuk 2002).

1.2 The Malaysian Context

Against this backdrop, as Malaysia stands at the threshold of a new era of technological learning, without doubt she has to embrace herself with all these new technological changes if she wants to remain competitive in the global market. So far, the development of networked communications in Malaysia is encouraging. The Malaysian government has targeted to increase the country's broadband penetration rate from two percent of the population to five percent in 2006 and 10 percent in 2008. This is very much in line with Malaysia's wish to become a fully developed

country and achieve its Vision 2020 objectives where it hopes that the broadband penetration should be at 50 percent of the population by 2020 (Sani 2004).

Concurrent with all these ICT developments, IHL in Malaysia are keeping pace with these latest trends as online learning is currently believed to be a potentially significant area of development in Malaysia. Through all these developments, it is also hoped that students will benefit from course materials made available online. Locally, many IHL have taken the first step and are developing their own e-learning platforms. Some examples of these online learning platforms include *myLMS, VOISS, IntiOnline* and *Learning Care.* Therefore, this study is timely as it will shed light on the current state of online learning in IHL from the learners' perspective especially in developing autonomous learners. The findings will hopefully be a precedent for many more such studies in other colleges and IHL both locally and globally.

2.0 PURPOSE OF THE STUDY

The purpose of this study was to investigate learner autonomy which refers to learners' abilities in taking responsibility for the management of their own learning through one mode of computer-mediated communication i.e. asynchronous online interactions via email interactions between learners and their tutor in achieving their learning tasks. Specifically, the study aimed to investigate to what extent asynchronous online interactions aided learners in achieving learner autonomy viz. planning and organising i.e. their ability to formulate learning aims and to decide upon time, materials and techniques to accomplish their learning tasks; monitoring i.e their ability to check, verify and correct themselves during their learning tasks; evaluating i.e. their ability to judge, evaluate and make decisions on their performance in achieving their learning tasks and finally computer abilities i.e their abilities in using and having basic computer application skills, to self-access course materials and related links to accomplish their learning tasks.

2.1 Research Methodology

The descriptive research methodology employed a three-pronged data collection procedure. This study included administering a survey questionnaire, conducting semi-structured interviews and analyzing email interactions. Purposive sampling method was the preferred technique as it enabled the researchers to study one intact class of students involved in asynchronous online interactions with their tutor for the B. Ed (TESL) course. The instrument entailed obtaining demographic data, aspects of learner autonomy viz. planning, organising, monitoring and evaluating their learning tasks as well as obtaining information regarding their computer abilities.

The survey questionnaire was administered to 30 part-time first year students pursuing the B. Ed. (TESL) course at the Faculty of Education in a local university that offered online distance learning courses. The return rate of the questionnaires

was 100 percent (N = 30). Data was obtained through the use of a questionnaire, which was administered once. Here, the researchers were able to investigate students' learner autonomy abilities by using the following 4-point Likert scale: 1 = strongly disagree, 2 = disagree, 3 = agree, 4 = strongly agree. Therefore, based on this scale and for the purpose of this study, an average mean of between 1 – 1.75 will indicate very negative response, a mean of between 1.76 – 2.50 will indicate a moderately negative response, a mean of between 2.60 – 3.25 will indicate a moderately positive response and finally a mean of between 3.26 – 4.00 will indicate a very positive response. The SPSS software was used to analyse the information collected statistically. Frequencies and descriptive procedures were performed in examining the accuracy of the raw data. Descriptive statistics employing measures of central tendency,the mean and measure of dispersion or standard deviation were used to obtain an accurate measurement.

A semi-structured interview schedule was also administered to 10 students. Interviews were deemed appropriate as it provided in-depth understanding, information, perspectives, and clarifications regarding respondents' learner autonomy abilities. With regards to email interactions prior consent was obtained from both tutor and learners since this mode of communication formed part of their asynchronous online interactions. Hence, email interactions between tutor and students were analysed to trace students' learner autonomy abilities. Both these methods were deemed important as they were able to provide information on how learners' achieved their learning tasks that related to gathering information on writing reports, business letters, and conducting meetings for their English for Communication course. The data from the interview schedule was then triangulated with students' responses from the survey database and the email interactions between the tutor and students.

3.0 INITIAL FINDINGS

3.1 Demographic Data

A total of 30 respondents participated and returned their questionnaires. An analysis of the population sample of this study indicated that out of the 30 respondents, 60% (18) of the respondents were females as contrasted to males who accounted for about 40% (12) of the total population sample. As for ethnicity, the data showed that 53% (16) of the respondents were Malays, 20% (6) Chinese, and 27% (8) were Indians. The average age for adult learners was 32 years.

Students had to use computers in their learning to interact through asynchronous modes of communications. Therefore, the study looked into various aspects of computer ownership,skills,and usage. Results indicated not every student had access to a computer and the Internet. Only 83% of them owned a computer and were able to access Internet, 13% did not have a computer and thus had problems accessing

the Internet. However, a majority of them i.e. 53% accessed Internet from their homes, 13% accessed it from the university and another 34% accessed Internet either from their work place or cyber cafes. In terms of Internet usage per week, the results indicated a low level of Internet usage. On the whole only 20% of them accessed Internet 11 – 15 hours/week, 40% accessed between 6 – 10 hours/week, and 0 – 5 hours/week respectively. Correspondingly, results indicated that 80% spent less than 3 hours/week on email communications and 20% spent between 4 – 7 hours/week. This was further corroborated during the interview sessions where respondents indicated that their low levels of communications via email and Internet usage had a lot to do with not having a computer and having limited Internet accessibility.

Results also disclosed respondents' perceptions that they used the computer for completing assignments (45%), downloading software (42%), research (40%), chatting/instant messaging (38%), and Internet (35%). However, online discussions/e-forum/newsgroup (32%), email (32%), and application software (28%) recorded low percentages. Interestingly, the respondents perceived postal mail (50%), chat/IRC (47%) and written memo (45%) to be the most preferred mode of communication. SMS (32%), email (28%) and face-to-face (27%) recorded low percentages. On the other hand, respondents also disclosed that their preferred mode of learning was online conferences (47%), CD-ROM/DVD (43%) and online materials (38%). However, printed (27%) and face-to-face (25%) recorded low percentages. This was also indicated by respondents during the interview sessions. Respondents used the computer mainly to complete their assignments and for research purposes. Even though online conferences and online materials was indicated as the preferred mode of communication, respondents did not spend much time to communicate with their tutor through online discussions/e-forums and emails. In fact, many respondents said that the tutor did not reply promptly to their emails. Hence, decreased their motivation and increased their frustration in participating in online discussions.

3.2 Learner Autonomy Abilities

The survey instrument also looked into respondents' learner autonomy abilities in terms of planning, organising, monitoring and evaluating their learning tasks. Table 1 shows the overall mean and standard deviation of learner autonomy abilities in planning and organising for respondents pursuing the English for Communication

Table 1 Overall learner autonomy abilities in planning and organising ($n = 30$)

Items	Mean	SD
Planning	2.8	.68
Organising	2.7	.88

Scale used: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4

course. The results indicated a moderately positive response among respondents in most aspects (Table 2). In terms of planning, learners were able to use planners/diaries/time tables to set their learning goals (mean = 3.0), to decide on the time to achieve learning goals (mean = 2.8) and their ability to locate suitable materials for their learning (mean = 3.0). However, respondents felt that forming their own learning objectives was not easy thus recorded a moderately negatively response (mean = 2.5). In the aspect of organising their learning tasks, the overall mean recorded was also moderately positive (mean = 2.7) (Table 2). In terms of organising, respondents indicated having difficulty in deciding on techniques to accomplish learning tasks (mean = 2.6) and needing help from friends on how to learn (mean = 2.8). These results indicated that in terms of planning, respondents were able to plan their learning tasks. However, they faced some difficulties in organising their learning and indicated that they needed help from their friends on how to learn.

Table 2 Learner autonomy abilities in planning and organising (n = 30)

Items	Mean	SD
Forming my own learning objectives is not easy	2.5	.90
I use planners/diaries/time-tables to set my learning goals.	3.0	.53
I am able to decide on the time to achieve my learning tasks.	2.8	.64
I am able to locate suitable materials for my learning.	3.0	.65
I have difficulty in deciding on techniques to accomplish my learning tasks.	2.6	.90
I need help from my friends on how to learn.	2.8	.67

Table 3 shows the overall mean and standard deviation of learner autonomy abilities in monitoring (mean = 2.7) and evaluating (mean = 2.6). Both aspects recorded moderately positive responses. In their ability to monitor their learning tasks, respondents recorded moderately positive responses in all aspects of monitoring (Table 4); know how to check their own learning progress (mean = 2.8), have difficulty in correcting themselves in their learning tasks (mean = 2.6), know how to verify their performance in the learning tasks (mean = 2.6), expecting the tutor to be at hand to guide them in their learning tasks (mean = 2.8) and needing friends and tutor to help them overcome problems in their learning tasks (mean = 2.8). However, in the area of evaluating,

Table 3 Overall learner autonomy abilities in monitoring and evaluating (n = 30)

Items	Mean	SD
Monitoring	2.7	.75
Evaluating	2.6	.85

Scale used: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4

Table 4 Learner autonomy abilities in monitoring and evaluating (n = 30)

Items	Mean	SD
I know how to check my own learning progress.	2.8	.67
I have difficulty in correcting myself in my learning tasks.	2.6	.90
I know how to verify my performance in my learning tasks.	2.6	.81
My tutor must be at hand to guide me in my learning tasks.	2.8	.77
I need my friends' and tutor's help in overcoming problems in learning tasks.	2.8	.67
I am afraid to evaluate my own performance of a learning task.	2.6	.98
I need regular feedback from my tutor about performance.	2.8	.77
Challenging learning tasks discourage me from performing well.	2.5	.82
I barely have time to check and improve the errors in my assignments	2.5	.75
I am not an independent learner.	2.4	.77
I am able to manage my own learning.	2.2	.89

respondents indicated a moderately positive response in the following aspects i.e. they were afraid to evaluate their own performance of a learning task (mean = 2.6). They also indicated that they needed regular feedback from their tutor about their performance (mean = 2.8). Interestingly, they indicated that challenging learning tasks discouraged them from performing well (mean = 2.5) and admitted that they barely had time to check and improve the errors in their assignments (mean = 2.5). Both these aspects of evaluating conveyed a moderately negative response from the respondents.

The overall results showed that the first year tertiary students faced certain problems in certain aspects that related to learner autonomy abilities. Nevertheless, on the whole the results recorded were moderately positive for their abilities in planning (mean = 2.8), organizing (mean = 2.7), monitoring (mean = 2.7) and evaluating (mean = 2.6). On the other hand, when asked to rate whether they were independent learners the mean score recorded was moderately negative (mean = 2.4) thus suggesting that they were not confident of their own ability in managing their own learning (mean = 2.2).

3.3 Computer Abilities

Since this study entailed students having to interact asynchronously with their tutor, the researchers sought to explore students' computer abilities. In terms of overall students' computer abilities, it recorded a moderately positive response (mean = 2.7) (Table 5). Table 6 shows a further break down of aspects that related to students' computer abilities. The findings showed that generally students were able to use the Web to locate suitable learning materials (mean = 3.2), able to use the Internet to retrieve relevant text based information for their coursework (mean = 3.1) and knew how to access multimedia materials for their learning tasks (mean = 2.8). Interestingly,

Table 5 Overall students' computer abilities (n = 30)

Items	Mean	SD
Computer abilities	2.7	.75

respondents recorded a moderately negative response for the following aspects of computer abilities i.e. they needed help in using the computer to access latest course materials (mean = 2.3) and their computer abilities towards becoming independent learners (mean = 2.3). These findings were further corroborated with data obtained from interview sessions. The respondents indicated that they lacked computer skills in using application software i.e. Power Point and Excel, Internet search, multimedia skills and using the online digital library. These results were again surprising as they had registered with a university that runs online courses via distance learning.

Table 6 Students' computer abilities (n = 30)

Items	Mean	SD
I am able to use the Web to search for suitable learning materials.	3.2	.57
I am able to use the Internet to retrieve relevant text based information for my coursework.	3.1	.51
I need help in using the computer to access latest course materials.	2.3	1.1
I know how to access multimedia materials for my learning tasks.	2.8	.51
My computer abilities towards becoming an independent learner are low.	2.3	.72

4.0 ISSUES AND CHALLENGES

Respondents' responses when triangulated via the survey instrument, semi-structured interview protocols and analysis of email interactions highlighted some interesting issues and challenges. Firstly, the interview sessions with respondents divulged that one issue that caused considerable dissatisfaction was timely feedback from their tutors. A majority of the respondents (78%) expected their tutor to be more prompt to their queries posted via email. Respondents also felt tutors should be more interactive when having online discussions (mean = 3.3). In fact, 63% of the respondents indicated that their tutor seldom responded to their questions via emails. For example, Respondent 8 expressed that she was "irritated because we have assignment datelines...not replying promptly will make students demotivated". Respondent 6, said that he was "frustrated as work comes to a standstill when tutors do not respond and we cannot proceed for fear that we may be on the wrong track." Generally, respondents indicated that they were happy when tutors responded to their online queries promptly. In a study conducted by Abu and Daing (2002) and Hara and Kling (2000), also highlighted

similar findings i.e. lack of instructor participation frustrated students and the instructor remained unaware of their continuing level of frustration. Laurillard (2002), Armitt *et al.* (2002), Salmon (2000) and Cox *et al.* (1999) in their respective studies point out that online facilitation skill by instructors is the main predictor of the depth of online interactions. Therefore, besides being content experts, tutors need facilitation skills. This leads to the question of "what roles do tutors/instructors play in a CMC environment?" It is clear that tutors are faced with changing roles and responsibilities. Coppola *et al.* (2001) asserted that in an online learning environment, teachers have three roles i.e. cognitive, affective and managerial. In a similar vein Berge and Collins (1995), categorises tutor roles as pedagogical, social, managerial and technical. Further to this, Anderson *et al.* (2001) reports the need for a shift in instructor/tutor responsibilities in terms of more 'teaching presence'.

The second issue of concern among respondents was the lack of time to participate in asynchronous online interactions (mean = 2.6). Since all the respondents were part-time students, some of them had to learn how to manage their time between work, family and pursuing an online degree. Therefore, instead of taking ownership to manage their own learning, 70% (mean = 2.8) of the respondents felt that their tutor and friends were responsible for the success of their online learning. In fact, participating in online interactions was not to fulfill the "want" but more to fulfill the "need" because according to Respondent 7 most of the students are "forced to go online because of the 5% marks!"

Furthermore, an analysis of email interactions indicated that a majority of the postings did not show reflective thinking or in-depth discussions of real issues but rather surface and literal level issues and questions. Respondents' discussions merely touched on content issues, wanting clarifications, elaborations, conformation of learning tasks such as assignment datelines and exam details from the tutor. Respondent 10 expressed hope that "the level of participation should improve in terms of quality of messages" whilst Respondent 12 mentioned that "some students simply join to say hi or hello to each other'. In a similar study, Harasim (2000) suggested that to overcome these shortcomings, online discourses should entail features that encourage divergent and convergent thinking, intellectual progress and idea linking.

Another issue that arose was that 47% of the respondents indicated their lack of proficiency in the English language hindered them from participating in asynchronous online interactions. This was further confirmed through interviews. "My English is poor, I feel shy and embarrassed to communicate with my tutor" said Respondent 5. Respondent 1 was afraid that the tutor "may find fault and minus marks if I make errors when writing the message' whereas Respondent 3 admitted that "I just like to read the messages because I can improve my English...I don't know how to reply to the messages or to give feedback?" In two other studies conducted in Malaysia by Masputeriah (2004) and Thang and Bidmeshki (2004), stress the importance of

conducting online courses to help students improve their command of the English language.

Respondents also voiced their dissatisfaction on a number of issues that related to ICT. Their grievances ranged from technical to hardware and content matters that related to the computer mediated communication learning platform. Respondent 12 indicated that he had trouble to gain access to the digital library and online references. Finally, Respondent 7 lamented on the fact that there was "no 'hands-on'" training to provide learners on how to effectively participate in asynchronous online interactions".

5.0 CONCLUSION

This pilot study investigated learner autonomy through one mode of computer mediated communication i.e. asynchronous online interactions via emails. Results in this study indicated that the first year university students generally did not consider themselves to be truly independent learners capable of managing their own learning. In fact, their responses in various aspects of learner autonomy abilities viz. planning, organizing, monitoring, evaluating and computer usage recorded moderately positive responses. First and foremost, steps must be taken to ensure that the students have the abilities to manage their own learning. Therefore,learners must be helped so that they are equipped with the right learning tools such as having the ability, knowledge and skills to plan, organise, monitor and evaluate their own learning before embarking on a distant online learning experience. More importantly, they must have the desired computing abilities to enable them to participate effectively in asynchronous learning environments. Without these learning skills students may not be able to reap the benefits offered by today's 'wired enterprises' in universities all around the globe.

In tandem with this, perhaps IHL need to relook into the needs of students launching into distance online courses. Educators and administrators must also ensure that support is provided to learners for online internet based courses and websites. Students should have easy access to good running systems that will fulfill students' needs in acquiring information at their fingertips anywhere and anytime without the frustrations of system failures or poor connections.

On top of that, this study also indicated that tutors on their part were not keeping to their side of the bargain. They failed to give prompt reply to students' emails. One need to understand that for learners to benefit from quality asynchronous online interactions an effective follow-up system backed by dedicated educators must always go hand-in-hand. If not students are going to be frustrated and distant learning would fail.

What we can conclude from this study is that learner autonomy though lacking in certain aspects can be achieved through asynchronous online interactions if the seeds for becoming autonomous are sown at the initial phase of online distance learning programmes. Allwright (1988) stressed that no matter 'how infertile the soil may be

in the whole-class environment' we can always find seeds of autonomy. We need to understand the fact that very few learners are spontaneously self-directed or autonomous. Therefore, it is the responsibility of educators to systematically guide and provide learners the skills and knowledge through learner training programs on how they can learn to take responsibility for their own learning. Once learners have been equipped with the right learning tools they can learn to take responsibility for their own learning and perhaps they will be able to participate more effectively in today's online learning experiences through computer-mediated communication channels.

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