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The Relationship between influencing Factors and the Implementation of Early Intervention Programme: The Possibility of Open Distance Learning

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Abstract

In Malaysia, there is a grave concern from various quarters (educators, parents, the public and the Ministry of Education (MOE) on the inability of children not acquiring the basic skills (reading, writing and arithmetic). Evidence (Samsilah, Abd Rahman, Sharifah, 2005) showed that there were grade seven students who still could neither read nor write and it was also found that 30 students in the same grade were illiterate (STAR, 1997). Even with intervention programmes, 43.5% of the students reworded failed to acquire the basic skills. One factor identified was teaching effectiveness. Related to this factor is the lack of teachers. Due to the lack of teachers, in some schools, teachers are asked to take on the task of teaching in the intervention programme without proper training, hence, the poor student performance outcome. Yet, there are a number of individuals who would like to be teachers but had no opportunity because of economic reasons or not meeting the requirements post high school for entrance to higher institutions. Therefore, Open Distance Learning (ODL) may be the option for these individuals. This may perhaps also solve the woe of the nation's lacking of teaching staffs. The basic philosophy of ODL promotes 'inclusion' and 'openness'. These two concepts ensure a place and space for all those who were left out from the education mainstream but have the motivation to be corrected a teacher. But, with ODL the academic system will demand a shift in pedagogical paradigm, because ODL entails notably multimedia products and services. Therefore would-be ODL teachers and trainers will be trained via the use of innovative methods and techniques using multi media as the tool of instruction. This study suggests that with instructional innovations perhaps Early Intervention Programme (EIP) may have better prospect for success. Other factors in influencing the implementation of the EIP and implications for ODL are also discussed.

Background

Childhood education is a term used in this study to encompass children from pre-school through primary school ranging from 5 to 12 years. We hold to the assumption that all children are ready to learn: that is, they must become aware, explore, enquire, use and apply information from their environment. However, there are children who are normal in terms of physical and intellectual development, yet they experience learning difficulties, particularly the acquisition of basic skills and related skills like communication and literacy as well as socio-emotional.

In Malaysia, it was reported that 80,000 primary school children had problems in the acquisition of basic skills, which include reading (Rahil & Habibah, 2008). According to the report, basically it is because the schools themselves failed to identify the problems of

the children and consequently did not attempt to assist them in any way. Earlier in 2006, the Berita Harian (local daily) reported that approximately 10,000 primary school children failed to acquire the reading skill. Without assistance these children face almost school failure (Badian, 1998). Acquisition of the basic skills together with reading proficiency and related skills like communication and literacy are crucial to academic success in schools (Palincsar & Perry, 1995). Longitudinal studies have indicated that children with poor academic performance in the early years continue to demonstrate difficulties in later years (Stanovich & Siegel, 1994).

In Malaysia, there is a grave concern from various quarters (educators, parents, the public and the Ministry of Education) on the inability of children not acquiring the basic skills (reading writing and arithmetic). Evidence (Samsilah, Abd Rahman, Sharifah, 2005) showed that there were grade seven students who still could not read nor write and it was also found that 30 students in the same grade were illiterate (STAR, 1997). Some did not even know how to write their own names. Based on these concerns, an intervention program focusing on reading and writing (KIA 2M) was launched in 2006. This was an early intervention programme (EIP) designed to help year 1 pupils to read and write. It was carried out full-time (one year duration) and pupils had to sit for the screening test. Only those who scored less than 45% based on the scoring system of the screening instrument would be qualified for this programme. For those pupils who scored between 0 – 9, would be referred to the medical department for further tests to determine other abnormalities while those found to have learning difficulties will be sent to special education classes.

In 2007, after a year of undergoing the intervention programme, 43.5% of the pupils still failed to acquire the basic skills. So what went wrong? One of the factors cited was teaching effectiveness. The teaching scope was too wide and the teachers did not give specific attention to pupils' weaknesses in particular areas. Related to this factor is the lack of teachers. In some schools, teachers were asked to take on the task of teaching in the intervention programme although they were not trained. Currently in Malaysia, there are a number of individuals who would like to be teachers but had no opportunity because of economic reasons or not meeting the requirements for entrance to higher institutions. The quest for teacher recruitment is currently the main issue at all levels of education (Danaher & Abdurrahman, 2010). The same situation is also true in Malaysia. Therefore Open Distance Learning (ODL) may be the hope for these individuals. This may perhaps also solve the woe of the lacking of teaching staff. The basic philosophy of ODL promotes 'inclusion' and 'openness'.

These two concepts ensure a place and space for all those who had been left out from the educational mainstream. ODL is based on the concept, where the learning situation is such that the lecturers/educators are separated from one another physically (Moore and Kersley, 1996) and hence the teaching and learning have to cater to this kind of learning environment. Besides, in ODL, the majority of students are adult learners who are employed and have to juggle their academic life with their jobs, family and other social commitments. This means a shift in pedagogical paradigm. ODL can be done anywhere, everywhere and at any time. The location and distance are not a problem.

Students can get access to materials from the Internet and the Learning Management System (LMS). There will be remote interactions with peers, lecturers and tutors and they can communicate with experts. The learning system can be designed such that students can get information to cater for their needs and they can select the appropriate materials to achieve the learning outcomes. In fact, with the LMS, students will get access to: learning courses, e-learning catalogs, materials uploaded by tutors and course coordinators, plus, the students themselves will be able to upload their own assignments to be assessed. For the tutors and course coordinators they will develop skills in competency management, assessments, resource management, tracking and reporting.

Hence, the success of ODL depends very much on course design, delivery and student-centered

activities. ODL entails notably multimedia products and services such as text, audio, video, and computer-based materials, and usually this is supported by face-to-face tutorial sessions. There will be a team of experts such as media and information specialists and for modules there will be instructional designers, content developers and external assessors. Therefore would-be ODL teachers and trainers will be trained in the use of innovative technologies which provide easy access to those learning materials although the technologies themselves are not the main contribution to learning success. However Clark (1983) had noted that students had the advantage of learning from audio-visual, however the design of the instructional strategies employed in the learning materials will make the difference. To support Clark's view that although there is no denying that technology does influence learning, however, instructional strategies and content are more important. Hence, online learning must have challenging activities that can enhance students' meta-cognitive abilities. So, with instructional innovations via multi media, perhaps EIP may have better prospect for success.

Based on the constructivist theory, information should be presented in different modes that can facilitate information processing, which is the main crux of this school of thought. So online learning must provide meaningful and active activities that will involve active processing of information at a high level (Mohamed Alley, 2004). There should be good interactive online instructions so that the students will be exposed to first hand information. E-forum will encourage students to interact with peers, tutors and course coordinators (lecturers). Interactions with peers involve collaborative and cooperative learning, which will sharpen their cognitive skills. Interaction in whatever mode is important and it effects the achievements of student. With interaction comes confidence. Confidence will enhance the belief that peers, tutors and course coordinators (lecturers) will receive remarks or questions in a favorable light and therefore increase participation (Malik Muhammad Sohail, Babak Mahmood, Mumtaz Ali, Sadia Rafi, 2012) and subsequently increase cognitive skills.

On the other hand ODL can also incorporate the behaviorist theory especially when modules prepared for online learning have directly stated the explicit learning outcomes the students are supposed to achieve at the end of the course. Students are guided to achieve that learning outcomes through the tutorials, assignments, activities, e-forums and the LMS. At the end of the semesters students are evaluated to determine whether the learning outcomes have been achieved. ODL, if well designed and efficiently delivered, will be a success for it is catered for working adult learners. According to the theory by Knowles (1980) adult learners have distinct and unique characteristics. In his theory, Knowles came up with a model based on several assumptions. The assumptions are:

- Adults are autonomous and self-directed.
- Adults are goal-oriented; when they enroll in a course, they usually know what goals they want to attain.
- Adults are relevancy-oriented; they need to see a reason for learning something.
- Adults have accumulated a foundation of life experiences and knowledge that may include work-related activities, family responsibilities, and previous education.
- Adults are practical, focusing on the aspects of a lesson most useful to them in their work.
- Adults are generally motivated to learn due to internal or intrinsic factors as opposed to external or extrinsic forces.

Therefore ODL is a perfect mode of learning for working adults who want to upgrade themselves in terms of knowledge and profession as well as to EIP teachers.

Hence the objectives of this paper are: firstly to find out the current practices for EIP, secondly, what are the factors that contribute to the ineffectiveness of the EIP in schools. Thirdly, to suggest whether EIP can be offered as ODL.

Methodology

The quantitative and qualitative designs were utilized in this study. For the quantitative data, because of time and money constraints, 3 states

were purposely chosen, and one district was randomly chosen from each state. By using the simple random sampling technique (Krejcie & Morgan, 1970), 12 schools that conducted the EIP were selected. From each school 4 teachers who taught Language, Music, Arts Education, and Physical and Health Education became the respondents. These subject teachers were chosen because the EIP was implemented during these subject lessons. The total number of respondents was 128 teachers. A set of questionnaire designed by the researchers based on the transcribed interview results (qualitative data) was distributed. The answers to the questionnaire were used to gauge factors that influence the implementation of the EIP.

An interview schedule was employed by the researchers to obtain information pertaining to the implementation of the EIP. For the qualitative data, four schools in Selangor were purposely selected from the total number of sample schools. Fourteen teachers from these schools were interviewed. Hence the qualitative analysis was based on the interview results of these fourteen teachers.

A pilot study was conducted to test the reliability of the questionnaire. Seven schools and 21 teachers from a district (not part of the sample) were involved. By using Alpha Cronbach, the reliability of the questionnaire was 0.917 p<0.5. The internal validity was based on the existing literature of best practices and three Educational Psychology experts who validated the instrument.

Findings and Discussion

Based on literature, the factors chosen that may influence the implementation of any intervention programme were teacher training, monitoring of the EIP, guidance and support, students' success rate, discussion and networking.

Table 1: Correlations between Influencing Variables and Implementation of Intervention Programme

Variables	Correlations	Probability-Sig. at 0.05 level (2-tailed)
Teacher training	0.16	0.027*
Monitoring	0.55	0.000*
Guidance and support	0.59	0.000*
Discussion and networking	0.06	0.539
Students' success rate	0.53	0.000*

From Table 1, it can be seen that there are positive but weak correlation between teacher training and the implementation of intervention programme (r=0.16, p<.05), positive correlation between monitoring of EIP and the implementation of intervention programme (r=.55, p<.05), positive correlation between guidance and support with the implementation of intervention programme (r=.59, p<.05) and positive correlation between students' success and the implementation of intervention programme (r=5.23, p<.05). However, there are no correlations between discussion and networking with the implementation of the intervention programme.

The ANOVA table indicates that the model as a whole is significant [F (5,121) = 22.07, P=0.000< α=0.05]
Using the regression analysis, the variables monitoring of EIP, guidance and support as

well as students' success rate variable contribute 48% to the success of the implementation of the intervention programme (adjusted R=.477). These are the only three variables that make a statistically significant contribution (less than .05). In order of importance they are: guidance and support (beta=.31), monitoring of EIP (beta=.30) and students' success rate (beta=.22). Neither teacher training nor networking and discussion make any unique contributions although as stated earlier in Table 1, there is positive but weak correlation between teacher training and implementation of EIP.

Table 2a: Factors contributing to the success of the Intervention Programme

Model		Unstandardised Coefficients		Standardised Coefficients
		B	Std. Error	Beta
1	(Constant)	1.606	1.112	
	Mean teacher training	-.006	.016	-.026
	Mean monitoring	.064	.018	.297
	Mean guidance and support	.410	.123	.311
	Mean networking and discussion	.002	.001	.115
	Mean students' success rate	.015	.006	.224

Dependent Variable: mean implementation of intervention programme

Table 2b: Factors contributing to the success of the Intervention Programme

Model		t	Sig.
1	(Constant)	1.444	.151
	Mean teacher training	-.380	.704
	Mean monitoring	3.599	*.000
	Mean guidance and support	3.335	*.001
	Mean networking and discussion	1.730	.086
	Mean students' success rate	2.703	*.008

*Shows significance

Table 3: Anova.

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1000.557	5	200.111	22.074	.000[a]
	Residual	1096.939	121	9.066		
	Total	2097.496	126			

a. Predictors: (Constant), mean students' success rate, mean networking and discussion, mean training, mean monitoring and mean guidance and support.

b. Dependent Variable: Implementation of Intervention programme.

Hence, for the success of any intervention programme, the most important variable should be teacher training (Department of Education, 2010). Well-trained teachers are the backbone for the success of students, be it for intervention programme or even in academic performance. Yet, this study, suggests that the correlation between teacher training and the implementation of the intervention programme is weak and it is not a contributing factor

according to the regression analysis, as seen in Table 1. This is because the study uncovered that only 21.1 % of local teachers underwent training for the intervention programme, making it a significant contributing factor for non-performing teachers.

From the qualitative data, it was found that the trainings of teachers were in two modes. First, the teachers were trained via short courses, in-house training, and workshops conducted by the District Education Office. Second, some of the teachers were not trained at all, but they inherited the programme by virtue of taking over the classes from former coordinators. These untrained teachers acquired the 'knowledge' merely from discussions with the actually trained teachers. Pitted against the established intervention programmes in Australia, New Zealand and the United States, the intervention programme in this study has a lot of shortcomings, that evidently is detrimental to the education system in Malaysia.

Comparatively, teachers from the established intervention programmes (Australia, New Zealand and USA) were more immersed in their profession, they were: trained by university trainers, district or site-level teacher leaders and school-based teachers who worked with children. The teachers also participated in a year of training with numerous observations and multiple presentations behind one-way mirror. Following the initial year of training, teachers continued to participate in on-going professional development sessions called continuing contract which provided collaborative opportunities for teachers to respond to individual children, to question the effectiveness of their practice, to get help from their peers on hard-to-teach children, and to consider new knowledge in the field of the intervention programme. These aspects of teacher training should be seriously looked into, more so, if the intervention programme is to be considered for ODL.

However, the explained above scenario reveals that teacher training is pertinent for the traditional learning environment, whereas in ODL the learning environment may have to be appropriately redesigned and there should be more flexible access to learning opportunities. For instance, the one-year training and the professional development sessions can be done through activities via face-to-face tutorial sessions (the frequency of the tutorials to be appropriately determined) and innovative techniques, such as computer/video conferencing. The concept is activity based or student-centered learning. The training should encompass in-service and pre-service teachers. Embedded in the course training is the instructional design, which is most important as stated by Clark (1983), and with it comes the students' academic performance and the success of EIP. The result of this study showed that the group instructional method (25 - 30 children) was utilized which was obviously ineffective against individualised one-to-one lessons. For ODL learning environment then, small group sessions are appropriate, which could be more effective because children often benefit from listening to their classmates' responses and receiving feedbacks from someone other than the teacher.

This skill i.e. utilizing small group approach should be emphasized among ODL would-be teachers because it increases effectiveness. This can be done through video/computer conferencing by tutors and students. Besides, in the face-to-face tutorial sessions, which could be conducted on weekends, tutors can participate in exchanging of ideas with students based on study materials, textbooks and online references; or to conduct activities where there should be simulations or role-plays. These should not be executed in forms of lectures. The tutorial sessions can be once a month or twice a semester or even thrice per semester for more effective results.

It must be highlighted here that there is no compulsion for students to attend tutorials in ODL. However, tutors must device ways to persuade and encourage students to consistently attend tutorials or participate in teleconferencing of continued learning. This can be done through reinforcements like writing encouraging words through emails or giving bonus marks for assignments done for those who participated. At most times in ODL it is learner-centered approach education. To benefit fully from tutorials, tutors are to

encourage the students to complete reading and various activities for the topics to be discussed. This would prepare the students in advance so that they can participate meaningfully in the tutorial discussions.

Additionally, it would be benefitting if the course is supported by the LMS. Students can find course materials and the latest course information from the LMS. Through the LMS the students can also communicate with their fellow students, their tutors as well as the Course Coordinators by utilising the e-forum. The e-forum provides the foundation for collaborative and cooperative learning. This teaching and learning outlet, according to the constructivist theory will sharpen the students' cognitive skills.

The current practices in terms of content for the EIP are in the form of modules, which will fit well for ODL. From the qualitative survey, this study found out that the modules utilised by KIA2M were divided into two parts: the basic skills and the advanced skills. The Basic Skills (compulsory) include recognition, reading and writing the alphabets from A – Z, forming and differentiating consonant phonemes, forming, reading and writing words. As for the advanced skills, the children were taught to read and write effectively. The teachers paid particular attention to pronunciation, word recognition and identification, spelling, phonemes, reading and writing. In this study it was also found that there were a lot of drilling exercises and literacy was not stressed (behaviorism approach).

Compared to the current practices in USA, Australia and New Zealand, (based on literature studies) children are taught phonological awareness, visual perception of letters, word recognition, phonics and decoding skills and to recognise structural analysis of words and learn spelling patterns. The goal is to develop speed and fluency in reading and writing and to teach children how to construct meaning from print. Children are taught that what they read must make sense. Structured approach is intended to provide a balanced approach so that literacy develops along a broad front and children are able to apply skills in reading and writing.

One-to-one assistance is provided for children facing the most difficulty.

Hence, there is a need to relook into the current practices of EIP in Malaysia and raising the benchmark by troubleshooting the inefficiency against what is working in USA, Australia and New Zealand. This could be done under the ODL mode.However applying the methodology in ODL then can be challenging, so would-be teachers should be more proactive. They must take initiatives to read and apply current research and practice knowledge when making decisions that best fit the different children under their charge.

In the ODL context at least, teachers have to utilise the 'computer-supported collaborative learning' approach, something more open, and cooperative. Its main purpose is to promote a shared understanding of intentions and allow coordinated action. Teachers must constantly be reminded that children need help and guidance in both communication and literacy constantly. Even with ODL computer technology, the EIP is still likely to fail, because the most effective way to achieve success lies in the building of the interactive skill among teachers. Without this interactive skill, the children's communicative development will be affected.

Plus, the content of the module should be based on events familiar to the children and the techniques of presentation have to be in the form of storytelling and role-playing.The characters in the story must ignite excitement among children. It should also be interspersed with relevant children's folk songs. So, the interactive and story telling skill should be inculcated among ODL students planning to embark in the teaching profession. This can be done through videoconferencing, tutorials and exercises via assignments.

Another aspect that should be looked into is the students' success rate. This is one of the variables that determine the success in the implementation of an intervention programme and equally important for ODL. In the study that this paper is based on. (based on the school records), 20% of the children who followed the KIA2M reading and literacy program failed and

50% of the children who joined the main stream still could not read or write. The reasons given were: large student-teacher ratio, hence teachers could not carry out courses for diagnosis and literacy was not the focus. Children were only taught correct pronunciations, spelling and writing.

Later, KIA2M was discontinued and replaced by another Reading, Numeracy and literacy intervention programme. Again here, basically the program was not at fault but instead the recurring issue of lack of trained teachers. All the more ODL is very relevant where the pedagogical strategies be redesigned to suit the needs of the students and they in turn will possess the teaching strategies when they become the EIP teachers.

In the established Reading Recovery programme, in USA, Australia and New Zealand, Reading Recovery children were the only group who scored above average on all tests, showing long-term improvements in reading. The programme successfully reduced the need for further remediation and reduced the number of children classified as learning disabled, with positive results. To be successful, for any intervention programme, it has to follow what was planned (albeit activities and pedagogical approach can be modified or created based on needs of children) and diligently implemented. The programme has to be continuously upgraded based on current research findings of established programmes.
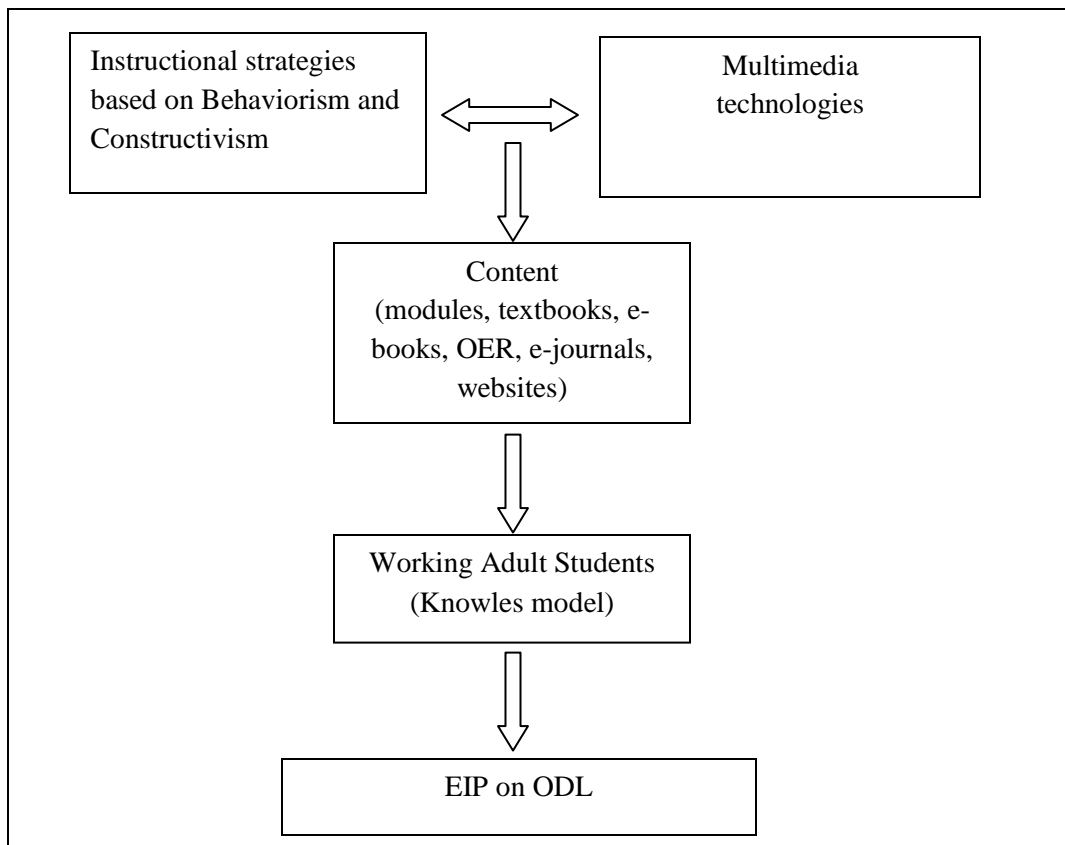
As stated earlier, the students' performance is of utmost importance especially for ODL. The learning activity is closely related to the learning outcome. In the traditional method the learners are the children but in ODL the learners are the would-be teachers who eventually will be teaching the children in the EIP programme. So the success of the children and the would-be teachers in the ODL programme is crucial for the success of EIP. Learning outcomes achievement, hence, has a special significance in ODL because it is an index to the success of the programme and the effective use of the innovative educational technologies. This approach subscribes to the behaviorist theory. Perhaps with effective and detailed planning, ODL may make the difference in the success rates of the children. It is hoped that the pedagogical designers and students of ODL will emulate the lists of success stories from the Reading Recovery programmes in USA, AUSTRALIA and New Zealand.

In this study, the administrative staff (headmasters and the evening coordinators) and the officers from the District Education Office conducted the monitoring of the intervention programme. A report on every level of the children's achievement was sent to the school authorities and a report on the achievement of each school of the KIA2M program was sent to the district education department. This monitoring system is also important for the success of any intervention programme.

Similarly, in the ODL mode, this monitoring system should also be carried out in the EIP programme offered. The monitoring has to carried out on the courses offered where the effectiveness of the tutors who are involved in the face-to-face tutorials with the students, are evaluated based on observations by the academic staff, the performance rate of the students and students' feedbacks in the form of surveys. A mechanism should also be introduced where the progress and performance of the LMS system and the e-forums can be monitored. Besides, there should also be reports from the external examiners on examination questions. An analysis on the examination questions should also be carried out to find out and address the areas of weaknesses.

Therefore ODL is possible for EIP because of the factors stated above. The following diagram illustrates the feasibility of EIP to be offered on ODL mode.

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│  ┌──────────────────────┐              ┌──────────────────────┐       │
│  │ Instructional        │              │                      │       │
│  │ strategies           │  ⟷           │ Multimedia           │       │
│  │ based on Behaviorism │              │ technologies         │       │
│  │ and Constructivism   │              │                      │       │
│  └──────────────────────┘              └──────────────────────┘       │
│              ⇓                                                         │
│      ┌──────────────────────┐                                         │
│      │ Content              │                                         │
│      │ (modules, textbooks, │                                         │
│      │ e-books, OER,        │                                         │
│      │ e-journals,          │                                         │
│      │ websites)            │                                         │
│      └──────────────────────┘                                         │
│              ⇓                                                         │
│      ┌──────────────────────┐                                         │
│      │ Working Adult        │                                         │
│      │ Students             │                                         │
│      │ (Knowles model)      │                                         │
│      └──────────────────────┘                                         │
│              ⇓                                                         │
│      ┌──────────────────────────────┐                                 │
│      │        EIP on ODL            │                                 │
│      └──────────────────────────────┘                                 │
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Conclusion

Reading proficiency and related skills like communication and literacy are crucial to academic success in schools. However, in many developing countries like Malaysia and even in developed countries there is a concern on the inability of children not acquiring these basic skills. Without assistance these children will certainly face school failure. The answer to this problem is the EIP. However, there is a lack of trained teachers to run this EIP and hence the phenomenon of untrained teachers taking on the task. ODL is a possible venue where training in EIP will give the opportunity to working individuals to be teachers or teachers to specialize in EIP or teachers to upgrade their professional qualification.

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