

# The relationship between influencing factors and the implementation of Early Intervention Programme: the possibility of open distance learning

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

**By**

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## **Abstract**

*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). In 2007, after a year of undergoing an intervention programme, 43.5% of the pupils still failed to acquire the basic skills. So what went wrong? In this study, 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 are asked to take on the task of teaching in the intervention programme although they are not trained. There are a number of individuals who would like to be teachers and had no opportunity to do so because of economic reasons or not meeting the requirements for entrance to higher institutions. Therefore, Open Distance Learning (ODL) may be the hope for these individuals. This may perhaps also solve the woe of lack of teaching staffs. The basic philosophy of ODL promotes 'inclusion' and 'openness'. These two concepts ensure a place and space for all those who have been left out from the education mainstream. This also means a shift in pedagogical paradigm. It entails notably multimedia products and services. Therefore would-be ODL teachers and trainers will be trained in the use of innovative methods and techniques using multi media. 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.

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 program ( $r=0.16$ ,  $p<.05$ ), positive correlation between monitoring and implementation of intervention program ( $r=.55$ ,  $p<.05$ ), positive correlation between guidance and support with the implementation of intervention program ( $r=.59$ ,  $p<.05$ ) and positive correlation between students' success and implementation of intervention program ( $r=5.23$ ,  $p<.05$ ). However there are no correlations between networking and discussion with the implementation of the intervention programme.

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

Model	Unstandardized Coefficients		Standardized 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 traing	-.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 <sup>a</sup>
	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.

The ANOVA table indicates that the model as a whole is significant [ $F(5,121) = 22.07$ ,  $P=0.000 < \alpha=0.05$ ]

Using the regression analysis, the variables monitoring, guidance and support as well as students' success rate contribute 48% to the success of the implementation of the intervention program (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 (beta=.30) and students' success rate (beta=.22). Neither teacher training nor networking and discussion made any unique contributions although as stated earlier in Table 1, there is positive but weak correlation between teacher training and implementation of EIP.



For the success of any intervention program, the most important variable should be teacher training. Well-trained teachers are the backbone for the success of students, be it for intervention programmes or even academic performance in all normal schools. However, in this study, as seen in Table 1, 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. This is because it was found in this study that only 21.1 % of the teachers underwent training for the intervention programme. 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 Department. Second, some of the teachers were not trained but they conducted the programme by virtue of taking over the classes from former coordinators. These untrained teachers acquired knowledge from discussions with the trained teachers. Pitted against the established intervention program in Australia, New Zealand and the United States, the intervention program in this study has a lot of shortcomings.

Comparatively, teachers from the established intervention programmes (Australia, New Zealand and USA) are more immersed in their profession, they are: trained by university trainers, district or site-level teacher leaders and school-based teachers who work 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 program. Therefore, these aspects of teacher training should be seriously looked into if the intervention program is to be considered for open distance learning (ODL).

The explained scenario above discusses training more suitable 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. The program offered by ODL has to be for post graduate diploma in education.

Embedded in the course training is the instructional design which is most important as stated by Clark (1983), and with it the students academic performance and the success of EIP. This study utilized the group instructional method (25 -30 children which was obviously ineffective) against individualized one-to-one lessons. Small group sessions were also recommended, 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. 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. There should not be lectures. The tutorial sessions can be once a month or twice a semester or even thrice per semester for more effective results. 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. 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. It would be benefitting if the course is supported by the Learning Management System (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 utilizing the e-forum. The e-forum provides the foundation for

collaborative and cooperative learning. This 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 utilized 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 found that there were a lot of drilling exercises and literacy was not stressed (Behaviorism approach). As 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 recognize structural analysis of words and learn spelling patterns. The goal is to develop speed and fluency in reading and writing, 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.

In ODL, 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 utilize the 'computer-supported collaborative learning' approach, something more open, and cooperative. Its main purpose is to promote a shared understanding of intentions and permit coordinated action. Children need help and guidance in communication and literacy. Even with ODL computer technology, the EIP will still fail, for the most effective way is the interactive skill among teachers. Without this interactive skill, the children's communicative development will be affected. 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. The interactive and story telling skill should be inculcated among ODL students. 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 program and equally important for ODL.

In this study (based on the school records), a 20% overall 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 program. Again here, basically the program was not at fault but instead the recurring issue with the 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 program, 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 program 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 program, 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 program has to be continuously upgraded based on current research findings of established programs.

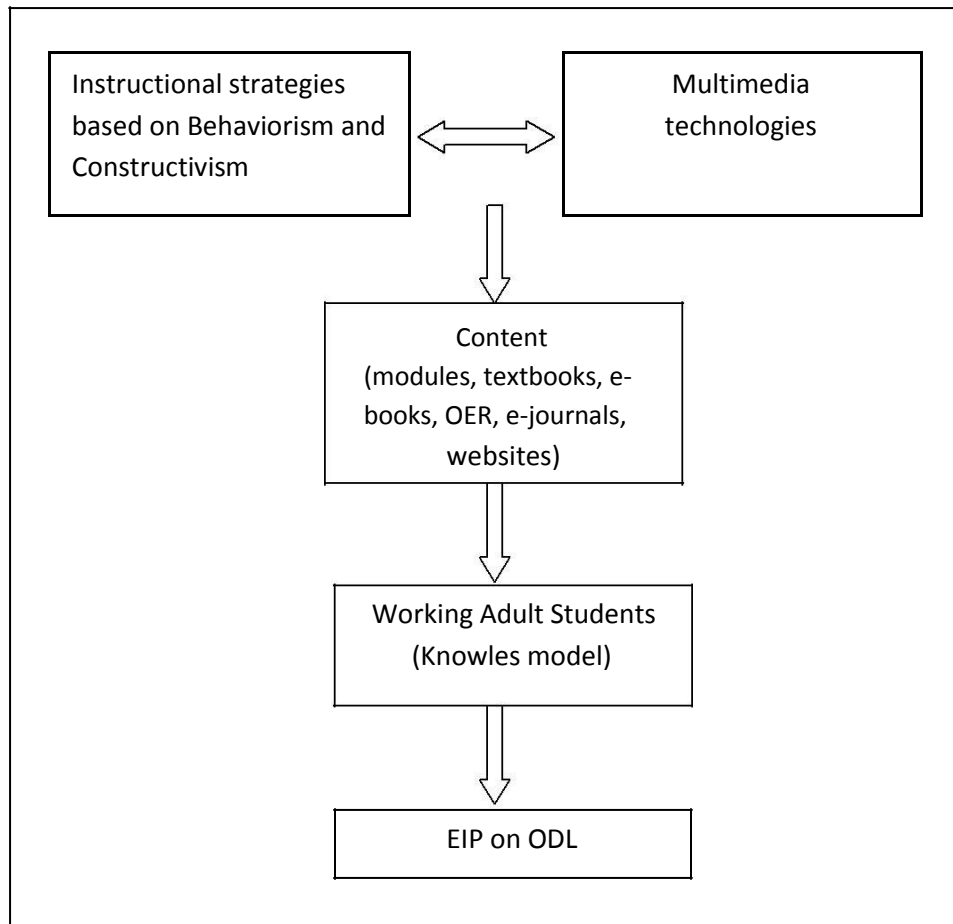
As stated earlier, the students' performance is utmost importance especially for ODL. The learning activity is closely related to learning outcome. In the traditional method the learners are the children but in ODL the learners are the would-be teachers who eventually will be teaching the children in the EIP program. So the success of the children and the would-be

teachers in the ODL program is crucial for the success of EIP. In particular learning outcomes achieved a special significance in ODL because they are an index to the success of the program 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 programs in USA, AUSTRALIA and New Zealand.

In this study, the administrative staff (headmasters and the evening coordinators) and the officers from the district education department 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 program.

Similarly In the ODL, this monitoring system should also be carried out on the EIP program 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.



## 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 almost school failure. The answer to this problem is the Early Intervention Programme (EIP). However, there is a lack of trained teachers to run this EIP and hence the phenomenon of untrained teachers taking on the task. Open distance learning (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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