

# Research on Computer Based Adult Literacy

Balavivekanandhan A<sup>1</sup>, Dr. Arulchelvan Sriram<sup>2</sup>

<sup>1</sup> Department of Media Sciences, Anna University,  
Chennai, Tamilnadu, India

<sup>2</sup> Department of Media Sciences, Anna University,  
Chennai, Tamilnadu, India

## Abstract

This research provides the guiding parameters for computer based adult literacy. Having gathered supportive ideas from varied exposure to computer based adult literacy through e-learning, it suggests computer based literacy content that suits the Indian scenario. The computer based adult literacy design has empowered the learners significantly. Discussion conducted with a focus group, comprised of educationists, educational psychologists, sociologists, adult education officers, linguists, writers, e-learning research scholars and field functionaries. Their expert opinions, observations were taken into consideration for enriching the learning content. The entire perspectives of the research paves way for effectively implementing computer based adult literacy in future. It facilitates creativity/development of new e-learning design and methodology for computer based adult literacy in India.

**Keywords:** *adult learning, country-specific developments, architectures for educational technology system, interactive learning environments, teaching/learning strategies, improving classroom teaching.*

## 1. Introduction

Computer Based Adult Literacy means becoming literate with the help of Information and Communication Technology (ICT) using computer soft skills. ICT is an alternate approach, to address illiteracy. Computer aided literacy programmes, especially in teaching/ learning process, is very beneficial from learners, implementing agencies and policy makers' point of view.

Computer suit the needs of adult learners. Computer facilitates self-paced learning. Its flexibility permits learner to choose both the convenient time and pace of learning. Individual learner can adjust the transmission speed of instruction. Computer can evaluate immediately and give feedback. CBAL enable the learners to build their self-confidence and be successful. It allows a free learning atmosphere, without fear of humiliation in

front of fellow learners. This is a boon especially for slow learners.

Computer can deliver information or instruction contingent upon a learner's response. It has a total recall, whereby information stored as an electronic matrix reserve, can be retrieved by the learner randomly in any order, from any point that is needed and any number of times.

With regard to training and practice, computer provides opportunities, until the learners attain mastery. It acknowledges responses and provides feedback, based on the individual learner's input. Computer makes it possible to receive information through varied sensory and conceptual modes, by the use of colour, shapes, sound, animation and graphics. Adding more sensory inputs, not only enhances the learning, but also attracts and motivates learners. Especially, to the poor rural Indian learners, training through a talking teaching gadget like computer is a thrilling experience!

Thus using computer for teaching literacy is much advantageous particularly for adult learners. At the same time, using computer in teaching adults is helpful to the implementing agencies and administrators, as they often find it difficult to identify volunteers / instructors with all the required skills of teaching. Computers installed in Continuing Education Centres (CECs), which are loaded with instructional software, caters to the basic literacy needs of the beneficiaries permanently without requiring implementation of special programmes. Consequently, it integrates different adult literacy programmes in a single mode. (Parthasarthy, 2007)

## 2. The Design of CBAL Module

The use of computer minimizes the need for printed materials, as a result, reducing the expenditure. The CBAL module designs, allow learners to play with words, script and sound, starting with a set of common words. As the word comes up on the screen, it is

reinforced by audio. The students learn to identify each letter of the word as an image, with a matching sound and memorize them with the help of flash cards.

The CBAL for Tamil consists of lessons, navigation, exercises and word creation modules, formatted in multimedia and user-friendly interface. The developed programme is in such a way that with effective training and coaching, an illiterate would be able to read sentences within 10-15 weeks and the system is not dependent on the use of trained facilitators (Tata Consultancy Services(TCS, 2007).

The CBAL put on view on a computer monitor and the facilitators, operating the computer, take the learners through lessons and exercises in an orderly manner. The software will be field-tested. Based on the understanding of the field test, the software as well as the training methodology will be fine-tuned and enhanced.

The Computer Based Adult Literacy is CD based that can be installed in the systems. It has auto play and is user - friendly. By browsing, the learner can access any segment of his choice from the lessons. Each lesson contains progressive series of screens. After interaction of each screen, the learner has to click on the right arrow to proceed. It is possible to go to the previous screen by clicking on left arrow. From any of the screen index is approachable.

The learner can browse, with the help of a mouse, view the visuals on the desktop, simultaneously listen to the audio, and learn. They can carry out the exercises, take the tests, instantly get the comment and correct themselves.

For teaching/writing skills, visual display of animation is used. Learners are to follow and practice writing, in their notebooks or on paper, assisted by the visuals on the screen.

### 3. Need for the Study

The Government of India is in the process of eradicating the illiteracy, using innovative technology and contribution in terms of hardware and soft skills. It has developed computer-based programme for adult literacy.

It is user friendly and self-motivating programme, hosted in the websites. Simultaneously all, the learners, can access it.

This study evaluates and explores the effectiveness of e-learning in the literacy programme implemented by Government of India. This will be helpful in developing skill based basic literacy, post-literacy and continuing education software packages. In turn, the

packages will be helpful in building human resources and national development activities.

### 4. Objectives

In adult literacy, in India, so far, we have followed the practices of traditional method of teaching - learning. With the emergence of science and technology in all fields of life, the State Resource Centre (SRC), Chennai, Under Ministry of HRD, Government of India and Tata Consultancy Services (TCS), collaborated, researched and developed a CD for computer literacy project in Tamil Nadu. To instigate the problems and difficulties faced through the system, it implemented the teaching process in different areas to find-out the successfulness of computer based literacy on the following lines:

1. To find out the effectiveness of the computer based adult literacy.
2. To collect the e-content based suggestions through structured questionnaire.
3. To collect the experts opinions of through open discussions.

### 5. Research Methods

The researcher adopted focus group discussion as the suitable method for this study of computer based literacy. A focus group discussion is a qualitative phenomenon relating to, or involving quality. For instance, when we are interested in investigating the reasons for human behaviour, (here learning behaviour is concerned) why people think or do certain things, we quite often talk of qualitative research.

Using in depth interviews for this purpose, the research aims at discovering the underlying motives and desires. Our important research aim is to discover the underlying motives of human behaviour, related with computer based adult literacy. Here the focus group discussion is based on qualitative research technique. We used two methods, one is discussion based and the other is questionnaire based. In questionnaire-based method, the researcher can get answers directly and indirectly. Accordingly, the result is categorized as visible and invisible.

From the open discussion, information, in the form of question and answer, collected. An e-content based questionnaire, circulated to all experts and their opinions collected. It is invisible, as we cannot see their direct reaction.

- Five Educationists from State Resource Centre for Adult Education,

- Seven Educational Psychologists from Teacher Training Colleges,
- Four Sociologists from the University of Madras and Trichy,
- Ten Adult Education Officers from State Govt. Literacy projects implementing Districts and NGO's in the field,
- Four Linguists
- Three Writers from Chennai and Coimbatore and
- Seven e-learning Research Scholars and experts from colleges and universities participated in the Focus Group Discussion.

## 6. Vision on Computer Based Adult Literacy CD

As computer based, learning program helps in retention of literacy skills and it is cost effective, the use of computer becomes vital in the field of computer literacy (Reddy, 2009). The State Resource Centre (SRC) in collaboration with TCS has developed the computer based adult literacy program. The e-learning program is acclaimed as best for refreshing and relearning any literacy skill in a single mode.

There are twenty lessons and seven exercises based on curriculum, framed with relevant norms. Let us see the nature and structure of presentation of lesson plans through e-learning Computer Based Adult Literacy program. When the learner sits before the computer and clicks its operational key, the computer screen begins to open, presenting Thiruvalluvar's<sup>1</sup> picture and the recitation of the first couplet of Thirukural<sup>2</sup>



<sup>1</sup> A famous Tamil Poet and Philosopher

<sup>2</sup> Thiruvalluvar's literary work. This famous work is translated into several languages and dialects

Figure 1 Computer Based Adult Literacy CD screen begins to open presenting the Thiruvalluvar Picture

அகர முதல் எழுத்தெல்லாம் ஆதி  
பகவன் முதற்றே உலகு.  
'A' leads letters; the Ancient Lord  
Leads and lords the entire world.

Figure 2 First couplet of the Thirukural

It means that the Tamil alphabets begin from God who is the creator of the universe (Rajaram, 2009). Then the drumbeater (the folk art of Rural India), beating his drum informs and invites the illiterates, saying 'Ladies and gentleman come, come, we teach Tamil easily. Come and learn happily.'

- The first two screens show the logo of the National Literacy Mission (NLM) and the name of Agency – TCS involved in the production of the literacy CD.



Figure 3 Screen that shows the logo of TCS and NLM

- Audio track begins from the third screen, which shows the first lesson of Tamil Adult Literacy program.
- Every lesson accompanied by a voice over, explains the teaching material. (Only after the completion of the voice-over, one can move to next screen).
- The sounds of letters / words / sentences seen on the screen become audible, by clicking them with the mouse. Repetition is possible any number of times.
- The screen setting is like that of a drama stage.
- After opening of the screen, there are two rectangular black boxes appearing, one for 'Name of Lessons' and another for that lesson's 'subheading'.

- In the left side of the first black box (the lesson side), there are two small triangular buttons, one is facing up and another is facing down, to indicate first and last part of each lesson and the second black box is indicating the chapter heading. Near to it, on the right side, there are two arrows, one is upside and one is downside to reach the next chapter. At the left side of the second rectangular black box, there are up and down arrows for sub-headings, right side for first to last.



Figure 4 Screen of the first chapter of Computer Based Adult Literacy CD

- In the right corner, the number of lesson is indicated, in the screen, the name of lesson and the teaching words appear as white and when its letters are pronounced and joined with other letters to form a new word, it is represented in yellow colour, catchy to the eyes of learners for good viewing / listening.
- When we click the hands in the right direction, meant for navigation, the letters are indicated in yellow colour with voice over. If we click it again, all the letters can be heard in the same voice repetitively. In the left direction hand, the same lesson is repeated, if we click, further, we can see arrows and buttons in the right side of the screen.
- Backspace arrow is for deleting the word.
- Green button is to completely erase / delete the word and reset the screen.
- Red button is for spacing between previous letters in the screen.
- Yellow button is for typing / making the appearance of other words in the next line.
- When we click the door button given in the left side of the screen, the screen door closes with the

display of Vanakkam<sup>1</sup> and playing the traditional Nadaswaram<sup>2</sup> music.

- At the starting of the program, the first lesson name appears in the left side of the triangle. When we click, lesson name appear. When we click the right side rectangle, the lesson begins.

Now let us see the structure of lessons framed with synthetic method of letters, words and sentences formation, in this computer based adult literacy programme.

Tata Consultancy Services conducted a field test covering a group of adult illiterates in the same locality in the slums of Chennai city. Based on the experiences of the field test, the software as well as the training methodology were improved and enhanced.

The initial experiment and the trial run highlighted the following advantages of the project:

- Acceleration in the pace of 'learning to read' (it takes about one-third of the time that writing-oriented methods require).
- Flexibility to individual learning speeds. Lower dropout rates noted in comparison with other adult literacy programmes.
- It does not require well-trained teachers or large-scale infrastructure.
- It is possible to conduct it with low-end computers (many organizations can afford to give away these types of machines).
- The multimedia format ensures that the pronunciation of the words/letters is taught accurately through the system, rather than being left to individual teachers. This is particularly useful for languages like Tamil, where the same letter can be pronounced differently (based on the context).
- It minimizes the problem of dropouts.
- Convenient time flexibility is possible.

## 7. Focus Group Discussion (FGD)

### 7.1 Introduction

<sup>1</sup> Formal way of greeting in Tamil

<sup>2</sup> Most popular classical music instrument in south Indian culture



Focus Group Discussion is an in depth discussion in which a small number of experts related to the fields of study are invited specially and purposefully to discuss the research topic of the study in a free and open manner under the guidance of the researcher (Narayanan, 2008). It is held for a heterogeneous group comprising experts / professionals of various departments related to the field of study - e-learning on computer based adult literacy. They provide a wealth of information through the Focus Group Discussion forum.

Focus Group Discussion addresses the research topic relevantly. This FGD also enhances and enables the research investigation about the topic. The questions for the participants on the important aspects of e-learning were well structured, naturally, as it is the content of the research matter, so as to enlist relevant observed responses from them.

### 7.2 Execution of Focus Group Discussions

Execution of Focus Group Discussion is an exchange and interchange of views, opinions, ideas, observations and suggestions of related field experts. The guidelines presented by them are the most important result of the discussion. It helps in getting the first hand information about cause and effect of various strategies and techniques used for the study.

The answer - format of the question - schedules constitutes very general form of output - presentation such as good, satisfactory, poor and could not say, to generate the natural way of individual's answers. It also facilitates finding out the effectiveness of CD's structure in meeting the requirements of teaching/learning functionality of the e-learning processes. The informative content of CD consists of 25 characteristic segments, based on the data for the study. Let us see the segments of the content and the responsive results of Focus Group Discussion's participants/experts as tabulated here:

		(79%)			
7.	Colour Choice	22 (70%)	14 (23%)	1 (2%)	3 (5%)
8.	Continuity	28 (70%)	8 (20%)	2 (5%)	2 (5%)
9.	Instruction	15 (37%)	10 (25%)	7 (18%)	8 (20%)
10.	Balance White Space	18 (44%)	15 (38%)	3 (8%)	4 (10%)
11.	Music	4 (10%)	5 (13%)	24 (57%)	7 (18%)
12.	Voice-Over	35 (87%)	4 (10%)	-	1 (3%)
13.	Clarity	22 (55%)	14 (35%)	-	4 (10%)
14.	Familiarity of Words	15 (37%)	14 (35%)	10 (25%)	1 (3%)
15.	Navigation	25 (62%)	12 (30%)	-	3 (8%)
16.	Font (Size & Colour)	26 (64%)	10 (25%)	1 (3%)	3 (8%)
17.	Text	18 (44%)	17 (43%)	-	5 (13%)
18.	Content	16 (4%)	17 (42%)	4 (10%)	3 (8%)
19.	Feedback	3 (8%)	2 (5%)	28 (69%)	7 (18%)
20.	Reading Exercise	28 (69%)	9 (23%)	1 (3%)	2 (5%)
21.	Writing Exercise	-	-	35 (87%)	5 (13%)
22.	Learning Method Used	29 (72%)	8 (20%)	1 (3%)	2 (5%)
23.	Language	25 (62%)	14 (35%)	-	1 (3%)
24.	Pace of Instruction	24 (60%)	14 (35%)	-	2 (5%)
25.	Evaluation	-	2 (5%)	25 (62%)	13 (33%)

Table 1 Opinion Obtained In the FGD from Experts.

Sl.No.		Good	Satisfactory	Poor	Could not say
1.	Page Layout	31 (77%)	7 (18%)	-	2 (5%)
2.	Sequence	28 (69%)	10 (25%)	1 (3%)	1 (3%)
3.	Pictures	-	2 (5%)	30 (75%)	8 (20%)
4.	Animation & Graphics	21 (52%)	15 (37%)	1 (3%)	3 (8%)
5.	Visual Layout	2 (5%)	2 (5%)	33 (83%)	3 (7%)
6.	Readability	32	7 (18%)	-	1 (3%)

### 7.3 From the observation of Table 1

1. The page layout of the e-learning CD is structured so that it attracts the attention of the learners / viewers who are interested to learn. The scenic setting is laid to bring out a clear positioning of the content. Among the 40 participants, 77% of them opined that the page layout is good enough, 18% as satisfactory; no one said it is poor and 5% have no opinions as could not say.
2. Sequence of the total content is serialized, orderly

- presented so that the learners / viewers quickly absorb the entire essence of it. Of the 40 Focus Group experts 69% have commented as good, 25% as satisfactory, 3% as poor and 3% have the answer, could not say.
3. Pictures generally present a clear idea of the content of any material, 5% of the participated experts evidently expressed that they are satisfactory, 75% as poor, and 20% as could not say.
  4. Animation and graphics animates and graph the feeling of learner learning capacity who is involved in the process of e-learning exercises. Of the 40 experts, 52% enlisted their answers as good, 37% as satisfactory, 3% as poor and 8% of them as could not say.
  5. Visual layout is a process of maintaining continuous and clear vision. The sense of vision is utilised to make learning effective. Among the experts participated in the discussion 5% said it as good, 5% as satisfactory, 83% as poor and 7% as could not say.
  6. Readability is the visible size and shape of the alphabets, words, sentences of any learning exercise. In this e-learning literacy research, 79% of the participants remarked it as good, 18% as satisfactory; none said it as poor and 3% as could not say.
  7. Colours plays a vital role of making the learning process interesting and keeping the learners glued to e-learning. After viewing the colour choice, 70% of the 40 participants endorsed it as good, 23% as satisfactory, 2% as poor and 5% as could not say.
  8. Continuity is the free flow of learning information in any learning program. It is the steps, through which the entrants go up to reach the target of the literacy programme. About 70% of participants point out the continuity as good, 20% as satisfactory, 5% as poor and 5% as could not say.
  9. Instruction is the process of motivating the learning. A proper instruction inculcates a good learning. Language instruction needs phonetic, syllabic and accentual pronunciation to letters, words and sentences of a particular language. Of the participants of the focus group, 37% indicate their answer as good, 25% as satisfactory, 18% as poor and 20% as could not say.
  10. Balance white space is the spatial gap between letters, words, sentences and other matters. Around 44% of the participant voiced it as good, 38% as satisfactory, 8% as poor and 10% as could not say.
  11. Music is a key factor of hearing. It uses the sense of hearing to impart the e-learning process. The rhythmic representation of letters and words increase the attentiveness of learners. The experts of the group conclude that the music is not vibrant and has been given less importance. Only 10% voted as good, 13% as satisfactory, 57% as poor and 18% as could not say.
  12. Voice-over keeps the CD learning program as live. It enlightens the mind and body of the learner / viewer to concentrate over the teaching and learning aspect of e-learning. Approximately 87% of experts vividly said that it is good, 10% as satisfactory and 3% could not say and none as poor.
  13. Clarity of the subject clearly creates reachable learning destinations. It helps the subject matter to be imbibed by the e-learners quickly. It helps them to enhance their understanding and learning power. 55% of the participants ratified it as good, 35% as satisfactory, and 10% as could not say and none as poor.
  14. Familiarity of words eases learning of language subject, being taught, through e-learning. A 37% of them certified it as good, 35% as satisfactory, 25% as poor and 3% as could not say.
  15. Navigation helps the learners to travel the entire route of e-learning. It invigorates the involvement of a learner in the self-learning or aided learning components of learning on CD exercises. Of the 40 participants, 62% of them narrated their experience in the CD learning as good, 30% as satisfactory and 8% could not say and none as poor.
  16. Font size and colour also boost the interest of the learners / viewers of CD in e-learning. The presentation should be a visual treat to the learners. Of the entire participants, 64% declared it as good, 25% as satisfactory, 3% as poor and 8% as could not say.
  17. Text structures and its contextual nature testifies the lasting concentrating effect of learner's over, stanza etc. 44% of the experts of the group consider the textual presentation of the CD as good, 43% as satisfactory, 13% as could not say and none as poor.
  18. Content, conceptualize and leads the entire learning process. The CD learning has a rich content of subject matter for learning. It contemplates and contributes to the contextual nature adopted for e-learning. Of the 40 experts, 40% contend that it is good, 42% as satisfactory, 10% as poor and 8% as could not say.
  19. Feedback is another field that can be described as

- arrow of / array of results of any learning process. Without feedback, there will be no positive progress / achievement of target / reaching goal of any program / study. It is a façade desired after the implementation / running of the project. Only 8% sense it as good, 5% as satisfactory, 69% as poor and 18% could not say.
20. Reading exercise explores and exploits the reach level of effective learning. It expands the usage of readable matter of language learning. Around 69% of the participants pointed out it as good, 23% as satisfactory, 3% as poor and 5% as could not say.
21. Writing exercise enhances one's language ability to present their knowledge of subject matter. In the e-learning CD also, many exercises have been included to facilitate this part of learning. Of the 40 experts, participated 87% consider the writing exercises as poor and 13% as could not say but none as good and satisfactory.
22. Learning method used in any learning program should have a direct impact over the learning situations. The craving desire for learning depends upon the methodological structure adopted in the learning process. Of the 40 participants, 72% expressed it as good, 20% as satisfactory, 3% as poor and 5% as could not say.
23. Language should have the easy style of, both writing and reading. If it has, the learning of it would be very easier and quicker. A 62% of the participants consider it as good, 35% as satisfactory, 3% as could not say and none poor.
24. Pace of instruction should be relevant to be able to grasp the phonetic, syllabic pronunciation of letters, words etc. The pace should be set such that the instructional processes of learning or e-learning be able to match the mental capacity of the learners. An average of 60% of them indicate it good, 35% as satisfactory, no one as poor and 5% as could not say.
25. Evaluation is conducted to find out / emphasize the effective uses of the programme by the learners and its beneficial outcome. Evaluation makes ways to reshape the teaching and learning modules. Evaluation calculates the content or skills acquired by the learners of the e-learning programme. Of the total 40 participants, none has enumerated the provision of evaluation as good, 5% as satisfactory, 62% as poor and 33% as could not say.

## 8. Findings through questionnaires

The following points were elicited from the 40 experts of various fields/disciplines/departments chosen/invited for the research study. (Table - 1)

1. 77% of the experts opined that the overall lay out as good, and is attractively set to draw the attention of the learners.
2. 69% of the focus group members supported the sequential content. It is serialized such that the presentation helps learner's easy reach of goal through e-learning programme.
3. No participant favoured the images portrayed in the CD. It definitely needs to be restructured; and redone centred on the subject matter in order to exhibit the real impact of teaching and learning.
4. 50% of the experts only expressed their satisfaction about the animation and graphic of the CD. Hence, to induce the learning interest in the students, matching animation should be incorporated focusing on the subject taught through e-learning.
5. Only 5% of the participants seem to favour the visual lay out to be good, 83% commented it as poor and 7% as could not say. As it is for giving the visionary effect of learners, this aspect must be re-built using relevant engrossing colours having good impact on the visual layout for effective learning.
6. 79% of the participant expressed their satisfaction over the readability of letters, words sentences in the CD. This may be maintained.
7. 70% of the participants conferred good opinion on the colour choice. The researchers consider it as a good stream in the e-learning process.
8. 70% of the participants pointed out continuity as good. The flow of learning information is smooth without any blocks.
9. One third of the participants only indicated the instruction process as good, and others the opposite. It denotes that the instructional process requires more structured technical up gradation.
10. 66% of the participants, nearly more than half said the white space between letters/words is not enough.
11. 10% of the focus group members concluded that the music aspect of the CD has been given less importance. Therefore to evince the learner's interest of learning, music must be given much more importance with tones of tunes to match the e-learning subject matter.

12. 87% of the experts said that the voice-over makes the program alive. It helps the e-learners to concentrate on the teaching and learning.
13. 55% of the participants declared that the clarity of the e-learning CD is good. It is easy for the learners to reach their learning objective quickly.
14. 37%, nearly one third of the participants said the presentation of familiarity of words in CD learning process is good. It assists in easy learning of subject matter.
15. 62% of the participants affirmed and confirmed that the navigation experience in the CD learning is good and the e-learners will be able to follow the routes of learning without difficulty.
16. 64% of the 40 participants said that the font size and colour of the CD learning is good and would surely enhance the interest of the e-learners.
17. 44% of the participants explained that the CD text is good, 56% gave less importance to it. The text structures will be presented in an effective manner leaving a lasting impact over the learning process.
18. Only 40% of them said that the content is good. To lead CD learning interestingly the content should be contributing in line with the requirement of e-learning.
19. 69% of them felt that the feedback mechanism is poor and only 8% considered it as good. The feedback should evoke effective results, without which the program cannot progress.
20. 69% of the participants pointed out that the reading exercise is good. It is the most important aspect of the e-learning / CD learning. It should be enriched with usual usage of readable matter and updated regularly to enhance the learning process.
21. 87% of the experts commented that the writing exercises are poorly designed. It should be improved such that it is more effective in imparting the training.
22. 72% of the participants expressed their opinion about the learning method used in the CD learning / e-learning as good. The researcher may also develop advance designs and modules to update the learning methodology.
23. 62% of the participants of the focus group felt that the language is good. The language style should be textual, suitable for both writing & reading.

24. 60% of them assert that the pace of instruction is good. It should be systemised in line with the grasping capacity of the learners.
25. The evaluation process in the CD-learning process lacked many points of thought, as no one among the 40 participants said it is as good. All have negative values about the evaluation process in the CD-learning. The researcher of this study has to re-design and formulate a more effective schedule of evaluation to assess the e-learning package.

## 9. Suggestions from Experts during the Open Discussion

The experts found out that the CD-learning program had no writing exercise. Proper exercises must be incorporated in the program for the improvement of writing of the learners who are going to be involved in the process:

- The CD-lessons have similar of reading exercises. Different reading exercises are necessary to develop the ability of learning by the learners.
- Only words are given in the text of the CD-learning. If matching pictures to the words can be displayed in the CD-learning, it sure will improve and help the learners, easily to memorise the words. Picture-word presentation is considered as an important method of teaching/learning, which should be compulsorily introduced / inserted in the e-learning process.
- Music has been given a lighter note in CD-learning. Music / the musical aspect, be increased to grasp the entire attention of learners.
- In the e-learning programme, they have given exercises at the end of completion of three lessons. One cannot assess the ability of learners with such a wide interval of exercise pattern. A proper exercise at the end of each lesson will help the learners as well the evaluators, to understand the status of the e-learners.
- There is no evaluation facility in the e-learning program. At the end of the completion of three or four lessons, there should be an evaluation process to evaluate the learner's accomplishment.
- In the e-learning process, there is no guidance in the form of manual or tips. The methods for using the CD in the e-learning process must be given separately, or as notes to help in correct usage of the CD. This will assist the learners and teachers



in effective implementation of the program.

- The words and sentences structured in the CD-texts are not having any foundation for creating awareness in the learners. The words and sentences are general. They do not induce any creativity. To rectify this, awareness words and sentences should be included / inserted in the CD programme.
- There is no information in the CD about the Government welfare schemes to create the socio-economic awareness among the CD-learners. Current socio-economic awareness, welfare and educational schemes of the state should be mentioned in the lessons.
- There is no regular response mechanism provided in the CD. In future, the CD-learning programme should include this to evaluate the learning interest and other abilities of learners.
- Animation and graphics have not been effectively used in the CD learning programme. Improvement in this would serve as a great motivation and enable easy and quick learning.
- In the CD-learning, there is no provision for a general discussion about the lesson. They directly present the lesson without any preamble about the topics. An introduction for each lesson will generate involvement and interest in the learners and will ensure their participation.
- The teaching and learning method in the CD has no place for songs and games, to avoid boredom of the learners and create a general tendency to get more involved in the learning process. In future, the lessons should comprise of related songs and games.
- The model of value education should be given in between lessons in the CD to improve the mental standards of the learners.
- In the CD-lessons, the content of the lessons are given with words and sentences. Addition of small paragraphs with simple sentences will compliment the lesson pattern.
- The voice-over will be set, such that there is an interactive teacher student style with a personal touch, to enhance the involvement of the learners in the learning process.
- The e-learning element should have teaching aids for existing words, new words and sentences. Literacy charts should be prepared and be used in the e-learning process to find-out the ability of

learners in forming words and sentences.

- The words and sentences commonly used in houses, streets, public places and in important boards seen by learners in their day to day life should be used in the teaching/learning process of the e-learning, so that they can put it to practise it daily.

## 10. Conclusion

This is an academic perspective research done to highlight the advantages of using the latest technological resources to eradicate illiteracy. Lessons are designed in teaching – learning model to facilitate easy learning by the adult illiterates. Care is taken to ensure self-paced learning and to suit the Indian environment. The aim is to make adult illiterates to become literate in a short span of time through facilitator-oriented e-learning packages.

The Focus Group Discussion of the research has evaluated the suitability of lesson-plan and structure for the purpose. It has assessed this e-learning material aspect wise. The findings and suggestions have to be looked into and the relevant corrections should be made. This will ensure the utilization of the computer based adult literacy, e-learning programme to its full potential, in our society to exterminate illiteracy. It is sure; that this study would revitalize the researchers, designers, implementers, scholars and learners of e-learning.

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**Balavivekanandhan. A, Research Scholar** He has authored few books titled Ms Office, Tally, Computer and Curriculum for learning computers. These materials are for the neo-literates of the National Literacy mission, Government of India as per the norms.

**Arulchelvan Sriram, Assistant Professor** His doctorate is on Educational Media and his areas of specialization are Print Journalism, Reporting, Editing, Page Designing, Educational Media and Media Research. He had done a research study on Feedback Study of Vyas Channel and DD programmes on Higher Education. He is currently in Portugal as a Post-Doctoral Fellow.