

Ideal Education System and its realization through Online Education Model using Mobile devices

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Abstract— Education is the most important thing in any country to develop and prosper. Education forms the character and intelligence of individuals. It also provides the talent and motivation to every person. The conventional education system at higher education level is analog to brick and mortar type business system, where a student get systematic education from college/University by physically attending required courses regularly (Full time/part Time). In this paper we have presented an Ideal Education System model by considering various characteristics under Input conditions, Systems requirements, output conditions and environmental & social conditions for Ideal education and analyzed these characteristics with an objective to achieve the goal. We have studied the possibility of realizing our Ideal Education System Model through Online Education using Mobile devices. Finally a comparison is made between Conventional Education Models and Online Education Model using Mobile devices.

Keywords—Ideal education system, Characteristics of ideal education system, Online education, mobile education

I. Introduction

Education is the most important thing in any country to develop and prosper. Education forms the character and intelligence of individuals. It also provides the talent and motivation to every person. The conventional education system at higher education level is analog to brick and mortar type business system, where a student get systematic education from college/University by physically attending required courses regularly (Full time/part Time). However, the conventional education system has many drawbacks and lot of improvements are expected in future days. To improve any present systems, it is normal practice that such systems have to be compared with an hypothetical, predicted system of that kind called "Ideal system".

The word 'Ideal system' refers to the system which has ideal characteristics i.e., perfect in every way. It is what the mind pictures as being perfect. The concept of ideal engine, ideal switch, ideal voltage source, ideal current source, ideal semiconductor devices like ideal diodes, ideal transistors, amplifiers etc. have been defined and taken as standards to improve the quality and performance of such practical devices or systems. It is found that, by keeping such hypothetical devices or systems in mind, researchers have continuously

improving the characteristics/properties of practical devices / systems to upgrade their performances. Hence ideal properties of a device or a system can be used to upgrade or improve its properties towards reaching 100% efficiency. By comparing the properties/characteristics of a practical device/system with its ideal counterpart, one can find out the possible modifications in that device /system towards reaching the objective of achieving such an ideal system [1].

In this paper, we have presented an Ideal Education System model by considering various characteristics under 4 categories as Input conditions, Systems requirements, Output conditions and Environmental & social conditions for Ideal education and analyzed these characteristics with an objective to achieve the goal. We have also studied the possibility of realizing our Ideal Education System Model through Online Education using Mobile devices. Finally a comparison is made between Conventional Education Models and Online education Model using Mobile devices.

II. Ideal Education System

A. Ideal Education System Model

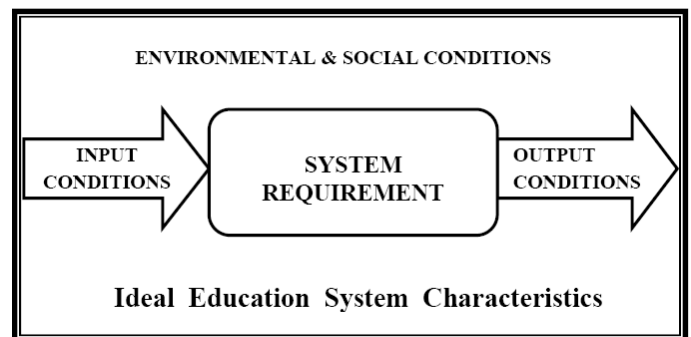


Figure 1. Classifications of an Ideal Education System Characteristics.

Education at its best will effectively prepare students for the working world. An ideal education system would not only prepare students for the working world but would also prepare them to become empowered to reform the working world to better suit the needs of the people. An Ideal education system shall have characteristics which can be predicted and classified. Based on identifying various factors which decides

the ideal education system characteristics, a model consisting of the input conditions, output conditions, system requirements, and Social & environmental conditions and is derived by a qualitative data collection instrument - focus group method [2,3]. The block diagram of such a system is shown in Fig. 1

B. Characteristics of Ideal Education System Model

A. Social & environmental conditions :

- (1) The Ideal Education provides education to the entire world rather than a single neighbourhood /Country and hence it has an unlimited global reachability.
- (2) The Ideal Education offers courses of study, which enjoys an inelastic demand in the world market. (inelastic refers to a Course that people need or desire almost at any price.)
- (3) The Ideal Education provides all types of courses in all field of specialization and imparts knowledge, skills and experience to all people irrespective of their age, gender, previous qualification and country of origin.
- (4) The Ideal Education system provides high quality education to everybody irrespective of their economic, social, linguistic and cultural background.

B. Input Conditions :

- (5) The Ideal Education system need minimum instructors in identified courses and must utilize optimum service from them.
- (6) The Ideal Education system operates on a low overhead. It does not need an expensive location, big campus and huge amount of infrastructure. Only a few Universities are required to provide quality education to the entire world.
- (7) The Ideal Education system does not require major investments in equipments and other education & training systems or repetition of large number of universities in every state and every country. In other words, it does not require huge capital.

C. System Requirements :

- (8) The Ideal Education system is relatively free of all kinds of government regulations or restrictions.
- (9) The Ideal Education system is portable or easily moveable. This means a student registered for a course should get the service wherever he moves.
- (10) The Ideal Education system satisfies its students intellectual needs. There is no constraints like compulsory subjects, minimum and maximum subjects.
- (11) The Ideal Education system leaves enough free time to instructors as well as to students. In other words, it doesn't require attention/study of 12, 16, or 18 hours a day.
- (12) The Ideal Education system is one in which the income of the university does not limit by personal output (Leverage). In the Ideal Education system, one can train 10,000 students as easily as can have one."
- (13) The ideal Education system students can take exams any time, any number of times and results should be declared immediately. There is nothing like losing a year due to failure in examination.

(14) The ideal Education system will provide services to its registered students anywhere, any time and any amount of time. i.e., it is ubiquitous.

(15) In ideal system, the technology is used in such a way that all pedagogies of education system should be delivered effectively.

(16) An ideal education system provides all students with not only basic knowledge but also social skills and good behaviors.

D. Output Conditions :

(17) In ideal Education system, the demand for variety of courses is higher than supply and the efficiency of the system is always 100%.

(18) In ideal Education system, the students have a choice on alternative in terms of course/service providers.

(19) The ideal Education system will be sustainable for long time.

Any education system which has the above properties is considered as ideal education system and the conventional education systems called brick and mortar systems have serious drawbacks/limitations in terms of the above properties [4].

C. Analysis of the Characteristics

Ideal Education System characteristics can be explained based on their effectiveness in improving the qualities and benefits of the education system in empowering & to reform the working world. The characteristics mentioned in ideal education system model are further discussed below :

(1) Global Reachability :

Any system will sustain for longer period by providing services to larger number of people. An Ideal Education system eyeing at global students and provides education to the entire world rather than a single neighbourhood /Country which has only limited students. Hence Ideal education system has an unlimited global reachability.

(2) Inelastic demand :

The Ideal Education offers all required and possible courses of study with highest quality and enhanced values, which enjoys an inelastic demand in the world market due to their benefits. In ideal education system, the benefits of education & training is always more than the cost incurred to avail it.

(3) Open Courses for everybody :

The Ideal Education System provides all types of courses in all field of specialization and imparts knowledge, skills and experience to all people irrespective of their age, gender, previous qualification and country of origin. This helps everybody in the world to have access to higher education in chosen area irrespective of his/her origin.

(4) High Quality Courses for everybody :

The Ideal Education system provides high quality education to everybody irrespective of their economic, social, linguistic and cultural background. The product/course in ideal education system is developed in such a way that it has unique features in terms of concepts, pedagogy, technology, understandability, innovativeness, cost/price or any other advantages.

(5) Minimum Instructors requirement :

Any education system can sustain for longer period by decreasing the cost. The Ideal Education system need minimum instructors in identified courses and must utilize optimum service from them for proper model of course delivery. Using a model of utilizing less, highly qualified, experienced, innovative instructors to provide training, will minimize the expenditure of the system.

(6) Low overhead :

The total cost of any education system is the sum of Fixed cost and Variable cost. The fixed cost involves initial investment on the education system and the variable cost include maintenance cost. By decreasing initial investment without compromising with quality, the education system can decrease its overall cost. As per our definition, the Ideal education system operates on a low overhead. It does not need an expensive location, big campus and huge amount of infrastructure. Only few Universities are required to provide quality education to the entire world.

(7) Low investments :

Out of various resources used in any education system, capital investment like investment on land, buildings, equipments and other infrastructures which need huge capital. On the other hand the Ideal education system does not require big cash outlays or major investments in land, equipments, buildings and other education & training systems or repetition of large number of universities in every state and every country. In other words, it does not require huge capital.

(8) Free of Government Regulations :

Many conventional education systems are facing problems due to Government regulations based on the nature of education (basic, higher, professional etc.), the environmental issues and the neighbouring community issues. These regulations sometime makes the educational systems as nonprofit or to shut down. An Ideal system is relatively free of all kinds of government regulations or restrictions so that can do sustainable services for longer period.

(9) Portability :

The conventional Education models have uncertainty in their efforts of providing continued service to the students due to various reasons including shifting from one country to another country or due to natural calamities. This problem can be solved in Ideal education model due to its portability or easily moveability. This means a student registered for a course should get the service wherever he moves.

(10) Satisfying intellectual needs :

In conventional education, the organization grows due to the collective efforts of the instructors and students and it may not satisfy the intellectual needs of the individual students. However, Ideal education system satisfies the intellectual needs of every student. There is no constraints like compulsory subjects, minimum and maximum subjects etc.

(11) Less time consumption :

The Ideal Education system leaves enough free time to instructors as well as to students. Students can take the courses at any leisure time. They need not attend the courses every day and spend equal amount of time every day. Similarly the instructors also need not engage with busy schedules. In other

words, it doesn't require attention/study of 12, 16, or 18 hours every day. In addition the students need not waste their time for unproductive activities like travel etc.

(12) Potential opportunity for high income :

The education systems must have profit for further progress. There is nothing wrong in expecting huge profit for honest efforts. One of the advantages of Ideal education system is possibility of ensuring large profits. The Ideal Education system is one in which the income of the university does not limit by personal output of its instructors (Leverage). In the Ideal Education system, one can have 10,000 students as easily as can have one." This is mainly due to intangible nature of courses/services and scalability.

(13) Repeated Opportunity for continuing education :

In ideal Education system, students need not be tensed due to heavy pressure during examination. The examinations are scientifically planned to test their understandability and intelligence. They can take exams any time, any number of times and results should be declared immediately. There is nothing like losing a year due to failure in examination.

(14) Ubiquitous :

The ideal Education system will provide services to its registered students anywhere, any time and any amount of time. i.e., it is ubiquitous. This is the major advantage of ideal educational system compared to conventional brick-and-mortar system.

(15) Technology dependent :

In ideal system, the technology is used in such a way that all pedagogies of education system should be delivered efficiently and effectively. Students should get opportunity to do experiments through simulation, group discussions/group activities through online communication models.

(16) All-round education :

An ideal education system provides all registered students with not only basic knowledge but also social skills and good behaviors. This will qualify them and empowering to reform the working world.

(17) Hundred percent efficiency :

In ideal Education system, due to its global reachability to anybody and everybody, the demand for variety of courses is higher than supply and the efficiency of the system is always 100%.

(18) Choice of alternative Courses :

Depending upon the self interest, job demands, environmental factors, the students in ideal Education system have a choice of alternative in terms of course/service providers.

(19) Longer Sustainability :

The ideal Education system will be sustainable for long time due to its advantages like low cost, high quality, and ubiquity.

III. Online Education through Mobile Devices as Ideal Education Model

To realize the Ideal Education System in practice, we need to convert University Courses to intangible in nature. The education system should be online electronic (intangible)

components and is controlled by any place in the world. The courses and the education model should be chosen in such a way as it should have characteristics, at least close to Ideal Education system model. This can be realized by online courses provided by virtual universities located anywhere in the world. In order to reach such online virtual courses to the students located anywhere, they should use mobile communicating devices so that the model will be perfectly ubiquitous [5].

An intangible course marketed through E-business model is the possible solution while approaching towards Idealization of the education. A ubiquitous E-Business model using intangible courses by virtual universities is most suitable for elevation to Ideal education system. Most of the characteristics discussed in Fig. 1 of Ideal Education system can be achieved through and compared to the properties of online Education using mobile devices.

A. Benefits of Online Mobile Education :

The benefit from the students point of view is accessing education services at anywhere, any time and any extent of time. These features significantly save the valuable time of the student. The main advantages of online mobile education for the global students are listed as follows[6] :

(1) Ubiquity : Through mobile devices, education applications are able to reach students anywhere at any time. On the other hand, students can get any course they are interested in, whenever they want regardless of where they are, through Internet-enabled mobile devices. In this sense, mobile education makes a service or an application available wherever and whenever such a need arises. Communication can take place independent of the students and universities location. The advantages presented from the omnipresence of information and continual access to university courses will be exceptionally important to time-critical applications.

(2) Personalization : An enormous number of education courses, services, and applications are currently available on the Internet, and the relevance of information received by users is of great importance. Since owners of mobile devices often require different sets of applications and services, mobile education applications can be personalized to represent information or provide services in ways appropriate to the specific students use. Additionally, personalized courses/content is paramount in operating mobile devices because of the limitation of the user interface. Relevant university courses must always be only a single "click" away, since web access with any existing wireless device is not comparable to a PC screen either by size, resolution or "surfability".

(3) Reduced costs : This is due to availing and using various courses and services by number of students online. The course fee charged by service providers/universities is much cheaper than fees of conventional education systems. The heavy competition and the price war between mobile service providers also reduced mobile service usage cost.

(4) Flexibility : Because mobile devices are inherently portable, students may be engaged in activities, such as working or travelling, while doing their study through their internet-enabled mobile devices.

(5) Increased comfort : Many students secretly hate the conventional education system because of punitive fees, inconvenient working hours and unhelpful university staff. In online mobile education system, due to quick and continuous access of interested and required courses from any global university, the service is available 24 hours a day, without requiring the physical interaction with the instructors.

(6) Time saving : The main benefit from the online mobile education system from student's point of view is significant saving of time by the automation of education services including access to study materials, video lectures, online assignment submission, online interaction/discussion with both instructors and peer students, online exam and evaluation etc. Since the response of the medium is very fast, the students can get their result soon after the examination.

(7) Convenience : The ability and accessibility provided in wireless devices will further allow online mobile education system to differentiate its abilities from conventional education systems. People who wants to study any course in any university will no longer be constrained by time or place. Rather, it could be accessed in a manner which may eliminate some of the labor of life's activities. For example, students waiting in line or stuck in traffic will be able to access course materials/take an exam through online mobile education applications. Students may recognize a special comfort which could translate into an improved quality of life.

(8) Dissemination: Some wireless infrastructures support simultaneous delivery of data/information to all registered online mobile students within a specific geographical region. This functionality offers an efficient means to disseminate information to a large student population simultaneously.

B. Comparison of Conventional Education and Mobile Education :

The system properties like - free of government regulations, portability, satisfying intellectual needs, less time consumption, potential opportunity for high income, repeated opportunity for continuing education, ubiquity, and technology dependence; Input Conditions like - minimum instructors requirement, low overhead, low investments; Output Conditions like - all-round education, hundred percent efficiency, choice of alternative courses, and longer sustainability; Social & environmental conditions like - global reachability, inelastic demand, open courses for everybody, and high quality courses for everybody of ideal education model are realizable to certain extent using online mobile education as shown in Table 1. Thus online education using mobile devices called mobile education is a suitable education model for realizing our hypothetical Ideal business model.

TABLE 1 : Comparison of Conventional Education and online Mobile education in terms of Ideal System Characteristics.

| S. No | Ideal Education System Characteristics | Conventional Education | Online Mobile Education |
|-------|---|------------------------|-------------------------|
| 1 | Global Reachability | No | Yes |
| 2 | Inelastic demand | No | Yes |
| 3 | Open Courses for everybody | No | Yes |
| 4 | High Quality Courses for everybody | No | Yes |
| 5 | Minimum Instructors requirement | No | Yes |
| 6 | Low overhead | No | Yes |
| 7 | Low investments | No | Yes |
| 8 | Free of Government Regulations | No | Yes |
| 9 | Portability | No | Yes |
| 10 | Satisfying intellectual needs | No | Yes |
| 11 | Less time consumption | No | Yes |
| 12 | Potential opportunity for high income | No | Yes |
| 13 | Repeated Opportunity for continuing education | No | Yes |
| 14 | Ubiquity | No | Yes |
| 15 | Technology dependent | No | Yes |
| 16 | All-round education | Yes | Yes |
| 17 | Hundred percent efficiency | No | Yes |

| | | | |
|----|-------------------------------|----|-----|
| 18 | Choice of alternative Courses | No | Yes |
| 19 | Longer Sustainability | No | Yes |

IV. Conclusion

- (1) The various characteristics of Ideal Education System are identified and classified.
- (2) A suitable Online Mobile Education model is developed to realize most of the properties of Ideal Education System.
- (3) Various E-business models are used to study the possibility of realization of Ideal Education System.
- (4) It is found that ubiquitous E-Business called Online mobile education model can have most of the Ideal Education System characteristics.

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