

## IMPLEMENTING THE ARCS MOTIVATIONAL INSTRUCTIONAL DESIGN MODEL TO IMPROVE LEARNING SUPPORT OF DISTANT LEARNING STUDENTS

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**Abstract:** *This study aims to elaborate the use of an instructional design model to enhance the effectiveness of conducting face-to-face students' learning support in the distance education system. Universitas Terbuka (UT) provides various learning supports for its students. The students can use both online and face-to-face tutorial programs to improve their learning process. UT must find the appropriate instructional strategy that enables to enhance students' motivation in learning. One of the instructional design models that focus on the effort of improving students' motivation in learning is the ARCS, motivational instructional design model. This model entails essential components that will support the process of learning such as Attention, Relevance, Confidence, and Satisfaction. The study involved 32 distant education students who participated in a face-to-face tutorial program. A pre and post-test session was conducted to get information regarding the impact of using the ARCS instructional design model to facilitate students' learning. This research has implications for educators or trainers related to designing learning scenarios or developing learning design models.*

**Keywords:** ARCS Model, Instructional Design, Learning Support

**Abstrak:** Penelitian ini bertujuan untuk mengelaborasi penggunaan model desain pembelajaran untuk meningkatkan efektivitas pelaksanaan dukungan belajar siswa tatap muka dalam sistem pendidikan jarak jauh. Universitas Terbuka (UT) memberikan berbagai dukungan pembelajaran bagi mahasiswanya. Para siswa dapat menggunakan program tutorial online dan tatap muka untuk meningkatkan proses belajar mereka. UT perlu menemukan strategi pembelajaran yang tepat yang mampu meningkatkan motivasi belajar siswa. Salah satu model desain pembelajaran yang menitik beratkan pada upaya peningkatan motivasi belajar siswa adalah model desain pembelajaran motivasional ARCS. Model ini memerlukan komponen-komponen penting yang akan mendukung proses pembelajaran seperti: Attention, Relevance,

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Confidence, dan Satisfaction. Penelitian ini melibatkan 32 siswa pendidikan jarak jauh yang berpartisipasi dalam program tutorial tatap muka. Sesi pre dan posttest dilakukan untuk mendapatkan informasi mengenai dampak penggunaan model desain pembelajaran ARCS terhadap kemudahan belajar siswa. Penelitian ini berimplikasi pada pendidik atau pelatih terkait merancang skenario pembelajaran atau mengembangkan model desain pembelajaran.

**Kata kunci:** Model ARCS, Desain Pembelajaran, Dukungan Pembelajaran

## INTRODUCTION

Computer literacy is necessary for the teachers in the network and digital era. The use of the computer provides several benefits for the teachers. It serves not only as a medium to deliver the content of the course but also as a tool for teachers to manage the activity of teaching and academics. Indonesia, as one of the developing countries, still has a high number of people who are computer illiteracy. This illiteracy problem is also faced by the majority of elementary teachers.

Universitas Terbuka, a state university that implements an open and distant learning system, has a study program called the Primary Teacher Education Program. The program aims to provide primary school teachers with appropriate teaching knowledge and skills that can be used to facilitate the students' learning process.

After completing the Primary Teacher Education Program, the students have to be able to implement their competencies in their professional jobs as primary school teachers. One of the teaching courses the students have to enroll in is Computer and Instructional Media. The instructional goal of this compulsory course is "... The students have to be able to make effective instructional programs by implementing the Microsoft Office application." This computer course provides some basic knowledge and skills of using the Microsoft Office applications to their teaching tasks. The basic computer skills taught included typing, entering, and analyzing data.

The students must be able to produce teaching materials with Microsoft Word and Microsoft PowerPoint. In addition, the students, the primary school teachers, must be able to use the application of Microsoft Excel to facilitate simple academic and administrative tasks and assignments such as the students' learning assessments. To attain the instructional objectives of this basic computer course, the students have to master not only the theoretical but also the practical aspect of this course.

The majority of the students who enroll in this basic computer course have no knowledge and experience in working and using computer programs in their teaching and administrative jobs. They have a lack of knowledge and skills in using the computer program to assist their teaching administrative works. Most

of the students in this computer basics course have no self-confidence in using the computer programs to facilitate their job and assignments.

To solve these instructional problems, the Universitas Terbuka must find and elaborate the appropriate instructional model and strategy that can be used not only to provide necessary skills and knowledge but also to motivate the teachers in implementing the basic computer competencies. One of the models and the instructional strategies that can be used to solve this computer illiteracy problem is implementing the ARCS Motivational Instructional Design Model proposed by John Keller (2006).

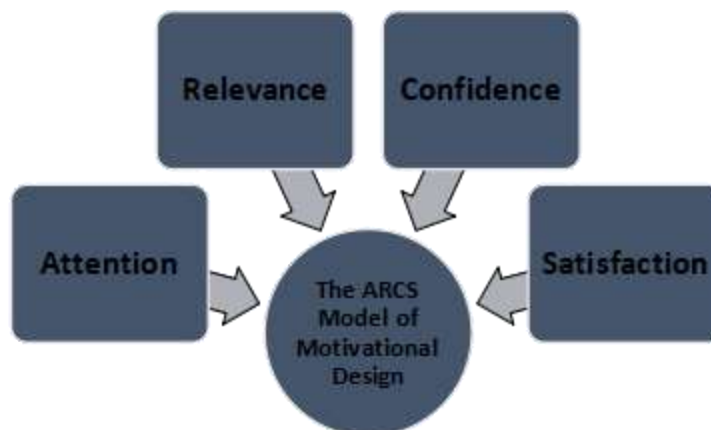
Regarding how to solve learning problems, learning should also review current trends. The existence of distance education becomes a popular trend and changes the way education is perceived. Although distance education presents its challenges, it provides an opportunity for many non-traditional students to receive a high-quality education. According to Kocdar, et al distance learning is a learning process in which students have the opportunity to learn independently from time and place, as well as various methods and techniques used in learning activities (Kocdar, et al, 2018). The distance education program has different characteristics from the regular program. Several characteristics of distant learning as follow: (1) the separation between the students and the tutors or teachers; (2) the use of instructional media and technology to deliver the course content; (3) organizational support to manage the program; (4) two-ways-communication in the learning process. The distant education program is different from the traditional education system in terms of media and technology used to deliver course substances to students (Simonson et.al, 2018)

Berg and Simonson also noted that the distance learning program has traditionally focused on non-traditional students, such as full-time workers, military personnel, and non-residents or individuals in remote regions who are unable to attend classroom lectures (Berg and Simonson, 2018). However, it has become an established part of the educational world, with trends pointing to ongoing growth. The success of distance learning depends on the collaborative effort among the students and the instructors. For distance learning to be successful, distance learners must possess personal characteristics that ensure academic success. The distant learner has to apply the self-directed learning style to manage their learning activities.

The communication and learning interaction between the students and the tutor are critical factors to the success of distance education programs. Tutors in this sense have a significant role by setting high academic standards and providing quick and clear feedback that includes useful examples (Poe, et.al, 2016). In addition, the use of media and technology allows the tutor to communicate with the students by using a variety of methods including email, announcements, discussion boards, and assignment feedback.

Conducting student learning support is a critical factor to the success of a distance education program. The tutor must be readily available to answer questions and clarify learning problems concerning the assignments. In addition, the tutors must also respond to students promptly.

It is the responsibility of educational institutions to enhance the quality of online education and distance learning by providing support for the tutors, learners, and content development (Kebritchi, Lipschuetz, & Santiago, 2017; Brindley, Walti, & Richter, 2008). Distance learning programs must provide useful resources to ensure the success of the students' learning process. The ARCS model of instructional design was developed by John Keller (2006), an academician of the Florida State University. He notes that there are four steps for promoting and sustaining motivation in the learning process: Attention, Relevance, Confidence, Satisfaction. The ARCS model of instructional design can be summarized in the following picture.



**Figure 1.** The ARCS Model of Motivational Design

According to Keller, the attention component of the model can be gained in two ways: (1) perceptual arousal which implements surprise or uncertainty to gain interest. Uses novel, surprising, incongruous, and uncertain events; and (2) inquiry arousal through stimulating the students' curiosity by posing challenging questions or problems to be solved. Establish the relevance component to increase a learner's motivation. To do this, use concrete language and examples with which the learners are familiar. The Six major strategies that can be used to establish the relevance are (1) experience, (2) present worth, (3) future usefulness, (4) need matching, (5) modeling and choice.

About confidence help, students understand their likelihood for success. If they feel they cannot meet the objectives or that the cost (time or effort) is too high, their motivation will decrease. The instructors have to make the students confident by using the following strategies; (1) provide objectives and

prerequisites; (2) allow for meaningful success; (3) grow the Learners; (4) provide feedback and support internal attributions for success. Learning must be rewarding or satisfying in some way, whether it is from a sense of achievement, praise from a higher-up, or mere entertainment. The instructors in this sense have to make the learner feel as though the skill is beneficial by providing opportunities to use the newly acquired knowledge in a real setting, provide feedback and reinforcement. In addition, the instructor does not patronize the learner by over-rewarding easy tasks.

The purpose of the study is to find the appropriate learning approach or an instructional strategy that can facilitate the open and distant learning of students to attain the objective of the Computer and Instructional Media for Learning course – the students must be able to implement the Microsoft Office application in creating teaching and administrative materials to support their professional job. The study of Implementing the ARCS Motivational Instructional Design Model to Improve learning support of distant learning students proposes the following research questions, how do the students gain the knowledge and skill to be learned through using the motivational learning approach or strategy?. Is the use of the ARCS Motivational Instructional Design Model or strategy able to facilitate the distant learners to master the knowledge and skills in implementing the Microsoft Office program?

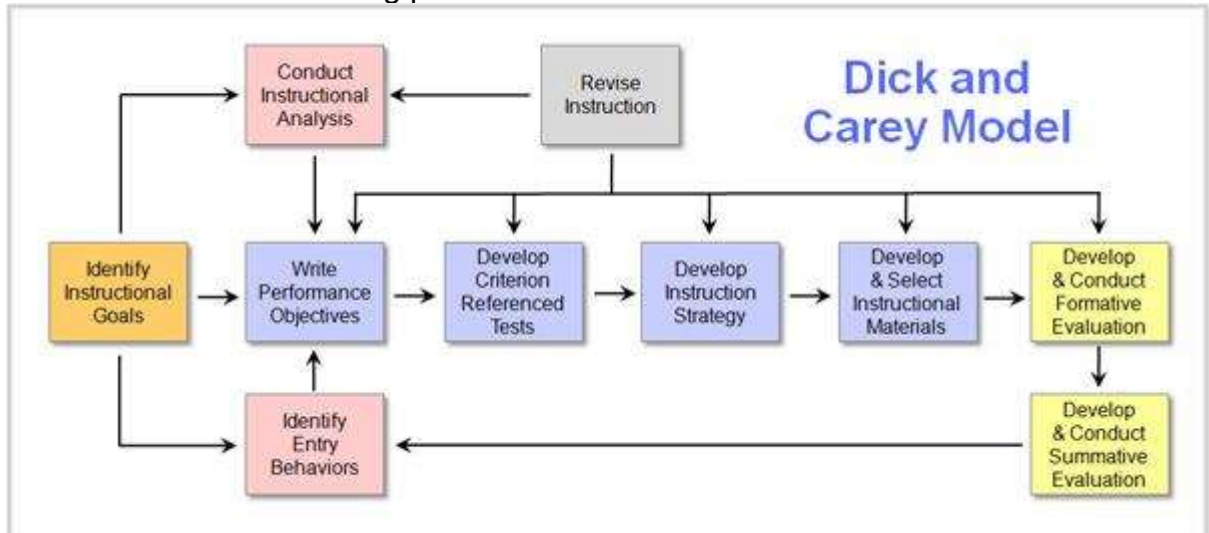
## **METHOD**

This study employed a research and development approach to elaborate the use of the ARCS motivational instructional design model to enhance the students' learning process of the Universitas Terbuka. The model was implemented systematically to the course program of the media and technology for learning.

The research and development model called the system approach model of educational research and development proposed by Borg, Gall, and Gall was employed to create a face-to-face tutorial program on the computer and instructional media courses (Borg & Gall, 2007) . This course is compulsory for the students of the Educational Faculty of Universitas Terbuka. The learning goal of this course program is to facilitate the students to be able to implement the program of Microsoft Office to design and develop learning materials.

Borg, Gall, and Gall (2013) adopted the systematic design of the instructional model proposed by Dick, Carey, and Carey (Dick & Carey, 2005). The model of research and development model consists of the systematic and the systemic steps as follow: (1) Identify instructional goal; (2) Conduct instructional analysis; (3) Analyse learners and context; (4) Write performance objectives; (5) Develop assessment instrument; (6) Develop instructional strategy; (7) Develop and select instructional materials; (8) Design and conduct a formative evaluation of instruction; (9) Revise instruction; and (10) Design

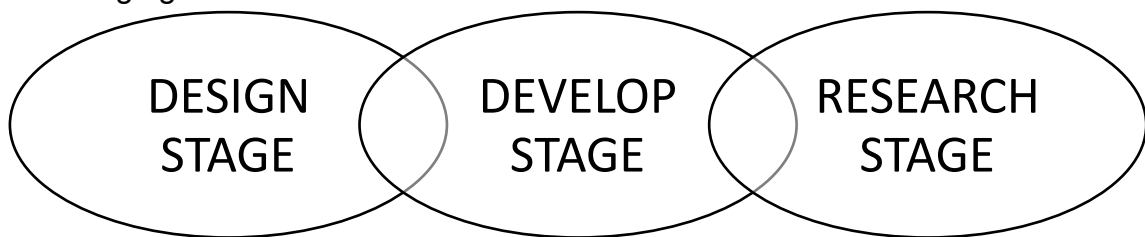
and conduct a summative evaluation of instruction. This model which is called the system approach model of educational research and development can be summarized in the following picture.



**Figure 2.** The system approach model of educational research and development.

Source: www. google image.com

These ten systematic steps are classified into three major stages such as (1) design stage; (2) development stage; and (3) research stage. The design stage of the model consists of step number 1 to step number 7. The development stage consists of step no. 7. The research stage consists of step number 8 to step no10. This study was done until steps number 9 - conduct formative evaluation of instruction. These three stages can be depicted in the following figure.



**Figure 3.** The Stages in Research and Development Model

Integrating the ARCS components of the motivational instructional design model into the face-to-face tutorial program was done in the design stage. The result of the design stage is the “blueprint” of the face-to-face tutorial program that implements the ARCS Motivational Instructional Design Model. The blueprint of the tutorial program with the ARCS model was produced in the development stage of the study. The development stage of this research and development approach was done to produce the draft of the program which is based on the ARCS motivational instructional design model. The research

stage of this study implemented the three phases of the formative evaluation such as one-to-one evaluation; small group evaluation; and field trial evaluation.

One-to-one-evaluation step is aimed to get information regarding the reaction of the participant toward the initial stage or draft of the program. This stage involved three different characteristics of the students as the participant. The revision of the program was done based on the result of the one-to-one evaluation step. The small group evaluation step was aimed to get input from ten participants regarding the initial implementation of the program. Again, the revision was done based on the inputs from the previous stage. The program was evaluated in the last step called field trial evaluation. This stage involved thirty-two students as the participants. They are the students of the Educational Faculty of Universitas Terbuka. A one-shot pre and post-test quasi-experimental design were employed to get information regarding the effect of the gain or effect of the students' learning.

## **RESULTS**

The use of the ARCS motivational instructional design model in the computer and instructional media course encourages the students to use the Microsoft Office application in their learning process. Besides, it also enhances the knowledge of the students in using the computer and network to facilitate their professional job as teachers.

The four components of the ARCS instructional design model were implemented to produce a face-to-face tutorial program that aimed not only to increase the students' learning achievement but also their learning motivation. In the first session of the tutorial program, the strategy to get students' attention was implemented by presenting the students with the course content related to the importance of computer literacy and skills in the era of digital and network technology. To get the students' attention, the tutor must demonstrate how to use the Microsoft Office applications-words, excel, and PowerPoint - to facilitate the students in completing their job. Computer literacy and the ability to use Word, Excel, and PowerPoint will assist the students to complete their professional job as a teacher.

Besides, getting the student's attention, the learning support program was also designed to encourage the students to use a personal computer or PC to complete their tasks and assignments. In this session, the tutor informed the students regarding the potential benefits of using computers and technology in teaching and instruction.

The face-to-face tutorial program which implements the ARCS model was designed to make the students feel confident in using computer technology as a tool for completing their teaching and academic tasks. In addition, the program was also designed to facilitate the students' learning process to help

them to achieve the course objectives – the ability to implement the computer basic skills in doing their professional job.

The formative evaluation of the program which employed the three evaluation stages of the program indicated positive results. The result of the one-to-one evaluation step of the program showed the students as the respondents enjoy learning with the ARCS model used as the instructional strategy. The small group evaluation with the eight students or respondents indicated that the use of the ARCS model enhanced students’ learning motivation. In the field, trying out the revised program which implemented the ARCS model showed a significant impact on students’ learning achievement. The result of the study can be shown in the following table.

**Table 1.** The formative evaluation results.

<b>Formative evaluation step</b>	<b>Method of Gathering data</b>	<b>Evaluation results</b>
<b>One-to-one evaluation stage</b>	Focus group discussion with three students	the students as the respondents enjoy learning with the ARCS model used as the instructional strategy.
<b>Small-group evaluation stage</b>	Program try-out with eight respondents	The use of the ARCS model enhances students’ learning motivation.
<b>Field try-out</b>	Program try out with thirty-two respondents	The ARCS model showed a significant impact on students’ learning achievement.

## **DISCUSSION**

Through a study and survey that was conducted on several schools, it was discovered that there is a great decrease in the scale of motivation of students when it comes to studying during the distance learning process as the study from Lukita & Sudibjo shows that there is a decrease in student motivation in schools studied during distance learning (Lukita & Sudibjo, 2021). This is due to the lack of interaction that a student and teacher would typically have when conducting learning activities offline or through face-to-face processes. Without this interaction, there is less incentive for the student to actually be motivated and thus active when it comes to the learning process during the distance learning method.

This is where the ARCS model can come in and be the tool to solve the issue at hand. The model focuses on four main subfactors that greatly affect the motivation of an individual or in this certain case, a student. Those four main subfactors are Attention, Relevance, Confidence, and Satisfaction. By using these main four factors as a method and incentive it will greatly help the students to re-achieve their lost motivation in studying during this online distance learning process.

The results revealed that the group who used motivational strategies showed significantly higher gains in motivation, academic performance, and



course interest scores. However, there were no significant differences between the groups regarding volition. Furthermore, the motivation and interest variables were measured with Attention, Relevance, Confidence, and Satisfaction subscales of the ARCS-V model. In terms of interest variable, there was only a statistically significant difference on the Attention subscale. Regarding the motivation variable, the results also showed a statistically significant difference in the attention, confidence, and satisfaction subsections of the ARCS-V model. The findings of the present study offer insights into ARCSV model-based research by examining the effects of the model as a valid and reliable framework for online learning environments. The implications and directions for future research are then discussed (Ucar, 2020).

The findings of research conducted show that distance learning can use the ARCS model to design student motivation in learning (Malik, 2014). This model can help educational institutions in overcoming dropouts, graduation percentages, and low motivation problems of students who do distance learning. Distance learning motivation in which there are elements of teaching and motivation can be used to increase the success of students in the learning process (Anggun, 2021).

The ARCS model may greatly help in the process of easing this online platform learning issue for teachers but especially students. According to a study, those who intend to use a motivational method as a means of incentives for the students, end up receiving an increase in motivation to study, academic scores, and overall interest in the subject. This is why the ARCS model is a great tool in fixing this issue.

There have also been studies conducted of the ARCS model in the student environment to prove its effectiveness, the studies found that there were statistical differences in the numbers of how attention, relevance, confidence, and satisfaction subfactor affects the motivation of students in the process of learning. This study and model were intended for the offline learning process, however, seeing how it was effective in the offline process, it should also greatly affect the online/distance learning process of this pandemic era. Despite the statistical changes from the subfactors found in the ARCS model, all the numbers still show and point towards the high efficiency and effectiveness of the ARCS model if it were to be implemented into the distance learning process.

On a long-term prediction, the ARCS model could greatly help the ministry of education in fixing this issue that has been going on for almost 2 years. Since the pandemic, the amount of motivation in students having to study has greatly decreased, which has caused their performance in their schools to decrease as well. This poses a problem to the schools and the ministry of education, not only worrying for current issues of having less motivated and active students in the field of education, but they also worry for their future, where they would not have a progressed and competitive Populus

of younglings with drive, experience, and a mindset with a certain fixed path from their education, instead, they would have a less-educated populous with wasted potential. However, with the ARCS, it could greatly help the worries and fears of the ministry of education in avoiding and preventing that nightmare from happening. With this tested and proven model, it can greatly increase the motivation of students in their currently difficult environment by using the four main subfactors that affect the students.

## CONCLUSION

Implementing the ARCS motivational instructional design model was able to enhance the students' learning motivation to master the basic skills of using a personal computer. The program also helped the students to achieve the course objectives of the computer and instructional media course. Components of the model-attention, relevance, confidence, and satisfaction-can be used as the instructional scenario to facilitate and encourage the students to solve the problem of computer illiteracy.

Getting the student's attention, the first step of the model was implemented to enhance the student's interest in using Microsoft Office. In addition, the students have to be encouraged by informing them about the potential benefits of using the personal computer in completing their job effectively. To be able to use the computer basic skills, the students have to practice and demonstrate their learning achievement. In addition, rewards and feedback must be provided to make the students satisfied with their learning progress.

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