Investigating ESL Learners' Motivation through ARCS Motivational Design Model

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Abstract   This research aimed to determine whether there exists a relationship between the four elements of Keller's ARCS motivation framework and undergraduate students' motivation to learn English as a second language. ARCS' is the acronym for Attention, Relevance, Confidence and Satisfaction. This study employed a quantitative approach and used a survey questionnaire for collecting data from 300 students enrolled in the undergraduate programs in four universities (two public sectors and two private sectors). The questionnaire was adapted from Keller (1987), Loorbach et al. (2015), Instructional Materials Motivation Survey (IMMS) and Wimolmas, (2013). The items were rated on a 5-point Likert Scale. SPSS software (v.23) was used to analyze the data. Demographic/background data was analyzed by running descriptive statistics. Overall, two main statistical analysis tests that are Pearson correlation analysis and Regression analysis were used in this study to determine the relationship among the variables of the study. The findings revealed that there is a significant positive relationship between all of the four factors of the ARCS model (attention, relevance, confidence and satisfaction) and undergraduate students' motivation to learn English as a second language.

Key Words: Motivation, ARCS Model, English as Second Language Students, Undergraduate Students, Pakistan

Introduction

In order to manage and stimulate learner motivation to seek and learn, Keller created the ARCS Model of Motivation. ARCS is the acronym for Attention, Relevance, Confidence and Satisfaction, and serves as the framework for learning, motivation, confidence enhancing tactics and performance for this study. Keller's ARCS model enjoys wide support in the literature, and a number of researchers attest to its reliability and validity in many different learning and design environments. For example, ARCS research can be found concerning the traditional classroom blended learning environments and online, distant, and web-based classrooms. In fact, Jonassen and Dwyer (1997) called Keller's ARCS model the "only coherent and comprehensive instructional design model accommodating motivation". The ARCS model is an attempt to synthesize the domains of behavioural, cognitive, and affective learning theories and demonstrate that learner motivation can be influenced through external conditions such as instructional materials (Moller, 1993). To quote Keller (1987), "motivational interventions can be focused within a general category or specific subcategory of the model". However, there is insufficient evidence to support such claims that learner motivation can be isolated or compartmentalized into separate categories.

Since English has become a global and international language, it is taught as a compulsory subject in many non-English speaking countries as a compulsory subject at school and at the undergraduate level in universities as well (Javed, 2016). Since motivation plays a decisive role in the successful learning of a second language (Lucas, 2010). Therefore, the main aim of this study is to investigate the relationship between the four elements of Keller's ARCS model and undergraduate students' motivation to learn English as a second language. Moreover, the study endeavoured to find out the motivational factors of adult learners in ESL class and consequently to devise new strategies for learning, motivation and performance of the students. The underlying assumptions are

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that all four aspects, i.e. attention, relevance, confidence and satisfaction, are highly important aspects of motivation and can be manipulated through external factors and affect learners' performance in spite of intrinsic motivational factors.

Literature Review

Motivation refers to the willingness to learn (Paris & Oka, 1986). The term motivation is not an action but is regarded as a psychological process that can be defined in a way causing the provocation of direction and dedication to perform the actions in order to fulfill the goals of a person (Mitchell, 1982). According to Snow and Lohman (1984), motivation is defined as the purposeful will towards a specific goal. Therefore, one cannot observe motivation, but it can be understood from the behaviour of learners and the preferences they make in order to achieve their goals (Pintrich & Schunk, 2002). There is a lack of agreement in the literature about the definition of motivation, yet researchers agree that the process of motivation is linked to human behaviour and its magnitude (Dornyei, 2001). In short, motivation can give explanations for the reasons for learning something, for how long a learner is willing to continue this effort and until when they will try to work on it. Generally, motivation is taken as a psychological procedure that is a result of learners' preferences and choices to perform the action for the attainment of goals.

Types of Motivation

Intrinsic and Extrinsic Motivation

There are two major types of motivation systems. One is named intrinsic motivation, while others are known as extrinsic motivation. As defined by Ryan and Deci (2000), intrinsic motivation is regarded as something which is fundamentally motivating and pleasant, while extrinsic motivation refers to the actions which are done to a specific outcome. We can say that intrinsic motivation is linked with the learners wish and concentration for learning. On the other hand, extrinsic motivation is opposed to this concept. It is related to the outcome or the end results, which is an accomplishment. The researchers have taken the example of animals to define the concept of intrinsic motivation. According to them, there is an absence of rewards for the animals, but they show behaviour that is interested and curious (White, 1959). Intrinsic motivation is present internally in the person, while extrinsic is related to achieve some end goal and reward (Ryan & Deci, 2000).

Integrative and Instrumental Motivation

The framework of Gardner and Lambert (1972) also suggests two types of motivation, integrative and instrumental. Integrative motivation is defined as the motivation which makes people interested in different cultures and languages, while instrumental motivation is related to various reasons like job, good results or elevated performance levels. The learners could have both kinds of motivation present within them, but that merely depends on the situation, their behavior, and the desire to learn. The learners with integrative motivation have better performance and have a strong desire to learn. Thus by satisfying their desire to learn, they enjoy the learning process (Gardner, 2012).

The role of motivation is regarded as different for diverse learners, but they can learn a new language by using all kinds of motivation. Integrative and instrumental motivation is regarded as significant tools for learning a second language (Cook, 2000). Integrative motivation enables the learner to become part of a certain culture, while in instrumental motivation, the learner has some expectations about the results and benefits to learn a second language (GardnEllis, 1994; Gardner, 1985). According to Ellis (1994), the best motivation is integrative motivation, as it is a more organized form of motivation and competent in nature. The absence of both types of motivation creates problems for the students in learning a second language as both are important individually. Similarly, Baig, 2014 suggests that with the help of digital classrooms and multimedia, students' motivation can increase. In fact, being a second language learner, it is difficult to learn without any motivation (Cook, 2000).

Learning and Motivation

Motivation strengthens the desire to learn (Di Serio, Ibáñez, & Kloos, 2013). The engagement level of the students and their motivation level in the learning environment is interrelated with each other. Learners who are

motivated at a high level are more involved in the learning process without expecting any reward in return (Skinner & Belmont, 1993). In order to encourage learners who are less motivated, there is a need for external rewards to encourage them. Malone and Lepper (1987) found seven elements that ratify learners' motivation: challenge, curiosity, control, fantasy, competition, corporation, and recognition. Presently, the major aim of learning is not only to work on learner cognition but on their motivation and their choices as well. These are the useful factors that help to increase learners' learning and motivation (Dermitzaki et al., 2013).

Second Language Learning Motivation

The urge to learn a second language is not the same among the learners. According to Cook (2000), there are three factors that impact the learning of a second language, and these are the age of the person, their personality and motivation. According to Lucas (2010), the learners are motivated to learn a second language because they are intrinsically motivated to do so. They are motivated by the knowledge they gain through the learning process and the expectations towards the accomplishment of their goals. The learners with a positive attitude towards the second language being learnt are highly motivated to learn it (Ditual, 2012). According to Chang (2010), the learning environment also impacts the motivation of learners.

The ARCS Model

The motivation of human beings is linked with emotions and their behaviors (Wlodkowski, 1978). It is regarded as an asset in the process of learning and success (Balog & Pribeanu, 2010). In order to motivate the learners, it is sufficient to attract, satisfy and develop their interest in the instructional material. In this case, the ARCS model is regarded as the best way to increase learners' motivation. ARCS stands for Attention, Relevance, Confidence and Satisfaction features. The first thing is to gain the attention of the learners and keep them engaged in the learning process. The second component refers to the need for relevance for the learners and their experiences related to that, and then there is a component of confidence which is linked with the expectancy and keenness of the learner. In the end, when the learners have a positive impact on the learning process, it will increase their level of satisfaction which will ultimately increase the motivation level of learners (Keller, 2008).

The development of the ARCS model of motivation is based on the value expectancy theory as stated by Keller (2008). Value expectancy theory was presented by Tolman (1932) and Lewin (1938). This theory is based on the view that expectation for success becomes the main aim of the learners to perform and give value to the activities and tasks associated with it (Keller, 1987).

According to the ARCS model, the external conditions, for instance, the instructional design, impacts the behaviour of the learners and their motivation level. This model combined the learning, behavioural and cognitive theories (Moller, 1993). The ARCS model has been supported by literature and is reliable for various learning and instructional designs. The model was implemented as validated in the conventional classroom (Means et al., 1997), the computer learning classes (Lee & Boling, 1996), the learning environments which are mixed in nature and the web-based classes (Gabrielle, 2003).

When the motivational factors are present in the learning environment, these factors develop the value of motivation among learners. The model was established to expand the instructional design methods and improve them (Keller, 1987). Keller has explained three major elements of the ARCS model of motivation which are vital: the first element is to develop the link between the theory of motivation and the ARCS model, second is to improve the instructional design by using the ARCS model, and third is following the step by step method to implement ARCS model. The instructional design should consist of an empirical approach and its element of motivation, i.e. the ARCS motivation model. The design of instruction is dependent upon the instructor/teacher (Keller, 2008).

Keller's ARCS model of motivation attempts to create effective learning theories which target the behaviour and cognitive abilities of the learners. In his view, the learners are influenced by external situations in a learning environment (Moller, 1993). In order to maintain the attention of the learner, creating the relevant material for the course, improve their level of confidence and enable them to be satisfied by the end of the course by giving them the internal and external rewards and treating them equally will enhance their motivation level. These four components are designed by Keller, namely attention, relevance, confidence and satisfaction, to serve as a

framework for the instructional designs. Keller suggests that each of the categories are applicable in diverse instructional contexts.

Attention

The first factor of the ARCS model is attention, and Keller referred to it as the most significant element of the ARCS model of motivation. If attention is not present, the other elements of the model would be difficult to obtain (Keller, 2010). Attention is regarded as catching the concentration of the learners and embedding the curiosity factor among them to learn (Keller, 2010). Keller (2010) has divided attention into three categories, namely perceptual arousal, inquiry arousal, and variability. The first category, which is perceptual arousal, is a change in the environment or a setting, while the inquiry arousal is deeper in nature and is linked with the knowledge perusing behaviour. The third one that is variability, is associated with the variations in the environment (Keller, 2010). The attention in the environment can increase the motivation level of the learners (Allen & Seaman, 2013). Keeping the interest of the learner is attention (Keller & Kopp, 1987). The gaining process of attention is easy but maintaining it up to a certain level is difficult (Keller, 1983). In process information models, the concept of attention is different from Keller's motivation model definition. In the process information model, attention is defined as helping the learner to learn and perform well to accomplish their goals rather than motivating the learners (Bickford, 1989).

Relevance

Relevance is developed by using the appropriate examples and language with which the learners are acquainted. If there is a lack of relevance in the learning process, there will be no attention from the learners' side, and it will become difficult to grab their attention towards learning. Relevance is defined as the contributory elements which play a role to satisfy the needs of the learner in order to meet their personal goals (Keller, 1987). The meaningfulness of the subject is regarded as relevant if the learner is skilled enough to form the learning process and find the material relevant to the subject. There are three major strategies that come under the factor of relevance that is familiarity, goal orientation, and motive matching. Keller has sub-divided these strategies into subgroups which help to make an appropriate plan for the instructional design which is more relevant to the learner.

The connection of student expectations with the course and learning experience is familiarity (Keller, 2010). So, the relevance of the course with the experiences of learners and their interests is known as familiarity. When the learners perceive that the lesson is relevant to their interests and beliefs, they will be more motivated towards the learning process. This is achieved by involving the learners in the lessons (Keller, 1987). The related instructional design with the goals of the learner is known as goal orientation. It refers to establishing the relationships among the goals of the leaner and the course. It consists of the abilities and skills of instructors and the environment in which the learner is seeking knowledge. Motive matching is defined as when the instructional strategies match with the motivation of the learner and satisfy their motivational needs (Gabrielle, 2003).

The personal motives consist of the behaviour of the learner when s/he is in the learning environment, and the comfort level of the learner shows how it matches with their motives. In order to improve the performance of the learner, it is most appropriate to use the relevance-enhancing approaches, which are effective for the motivation level of the learners (Means et al., 1997). In order to develop the positive attitude of the learners, the personal desires are met, which is known as a process of relevance (Keller, 2010). It denotes the needs of the learners who are perceived, not the actual ones. Goal orientation and motive matching are very important in relevance and dependent on the learner. Familiarity is dependent on the learning environment as compared to goal orientation and motive matching (Skiba & Barton, 2006).

Confidence

Confidence is defined as the belief in one's self that one is able to accomplish their goals. In this context, the instructor helps the learners to feel confident (Keller, 1987). There are three subgroups of confidence, namely learning requirements, opportunities for success and personal control. Keller (1987) emphasized the instructor's design of the course in such a way that it improves the level of confidence of the learners and lets them know

what is expected from them at the end of the course. The instructors develop constructive expectations for the accomplishment by helping them to achieve and make them understand what the requirement for the performance is. According to Keller (1987), confidence can be achieved by providing learners with opportunities, challenges, boost their achievement level, and not letting them be bored. This is done by giving a variety of learning experiences to the students. At this point, personal control is needed in order to elevate the level of confidence. In this situation, the learner has control over the experience of learning, and hence the feedback is provided in order to support the efforts of the learners.

To develop the positive expectation level among learners, the important aspect of the ARCS model is confidence. In order to achieve the goals of high performance, confidence is needed with the motivational aspects to increase the effort in the attainment of goals. Therefore, it is necessary that the instructional design should provide the learners with the estimation of success probability. This is accomplished by using the grading methods, rubrics, or limited time periods to complete the given tasks. In addition to that, when positive support for personal achievements is given to the learners over some particular time and relevant feedback, it increases the learners' level of confidence (Keller, 1987).

According to the definition of confidence by Keller (2010), confidence is a belief that one will be successful and can control the success factors. There are various factors that create confidence among the learners, for instance, the opportunities given for success, control over the person and the appropriate requirements. There are different forms of learning requirements in which the course is designed to make the student realize what to expect from the course which is being taught. The opportunities for success are different from the requirement of learning. When a student is given a task to complete within a limited period of time, it can become an opportunity for success. The tasks provided to the learners are in balance to create a chance of success as well as to overcome boredom. This should not be much challenging which creates the learners to fail. The control over the experience of learning is referred to the personal control in a learning environment. The experience of learning takes place in the same setting but is different from the environment. Traditionally the instructor has control over the environment of learning, but s/he must enable the learner to experience such control in the learning environment (Keller, 2010). Keller suggests the instructional designer should design the instructions by using confidence strategies.

Satisfaction

The last element of the ARCS model is the satisfaction which aids the learners to increase their motivation level. The instructors produce such type of learning experiences which create positive and assertive behaviour of the learners towards the instructions. Satisfaction is defined as the confirmation about the learning experience regarded as relevant with the material of the course and content of instructions helping to enhance the abilities of the learners (Gabrielle, 2003). Satisfaction is divided into three sub-groups, namely natural consequences, positive consequences and equity (Keller, 1987). In order to increase the learning motivation of the learners, they are allowed to use their skills and abilities in the learning environment. To create the knowledge worth applicable, it is the job of the instructor to allow the learners to utilize the knowledge in a real situation (Bruner, 1960). It is achieved by using the case study methods in the classrooms, experiments, and activities to let the learners experience the real-life situations in which they can apply the newly acquired knowledge (Keller, 1987). It enables the learners to have an enjoyable experience in the learning environment which is also termed as intrinsic reinforcement. In order to maintain the same motivational behaviour of the learners, it is important to reinforce the extrinsic positive motivational techniques for the learners who are not motivated intrinsically (Keller, 1987). The instructors could use verbal praise, encouragement, awards, and certificates in order to motivate the students by giving incentives to them. The last category which increases the satisfaction level of the learners is equity. It consists of the behaviour which shows the fairness and consistent behaviour of the instructor during the course. It enables the learners to feel the fairness and the applied standards are consistent with everyone in the learning environment.

Methodology

To explain the problem of the study in a logical way, this research has used quantitative methodology, which helped in understanding undergraduate ESL learners' motivation while using the ARCS model; to see how the

ARCS motivation model relates to the motivation of these learners; to comprehend and examine the advantages, weaknesses and applicability of ARCS model and its association with the motivation for the ESL learners. The problem arises where the students do arduous work to be successful in learning the language which is not their mother language. However, they are attaining the compulsory assistances and fulfilment from their complete learning in ESL classes. There is still a requirement to know that the students who are learning these courses are taught through the advanced instructional design by using the required skills and techniques or not.

The data was collected with the help of a questionnaire from 300 randomly selected undergraduate students from four universities (2 public sector and 2 private sector universities). The questionnaire was adapted from Keller (1987), Loorbach et al. (2015), Instructional Materials Motivation Survey (IMMS) and Wimolmas, (2013). The questionnaire consisted of overall 42 items divided into two main sections. Section A comprised two items that collected background information from the study respondents regarding their age and gender. Section B consisted of 40 items divided over five sub-sections aimed to collect data on the four elements of Keller's ARCS model comprising 21 items (Attention= 6 items; Relevance = 5 items; Confidence = 4 items; and Satisfaction = 6 items) and 19 items for collecting data on Motivation which was divided into two sub-sections (Instrumental motivation = 9 items and Integrative motivation = 10 items). Section B items were rated on 5-point Likert Scale that is Strongly agree =1, Agree = 2, Neutral= 3, Disagree = 4, and Strongly disagree = 5.

SPSS software (v.23) was used to analyze the data. Demographic/background data was analyzed by running descriptive statistics. Overall, two main statistical analysis tests were used in this study to determine the relationship among the variables of the study, for statistical Pearson correlation analysis was used in order to investigate and explore the relationship among ARCS motivational design and motivation level of the learners. Finally, regression analysis was run to examine the relationship among the variables.

Since the questionnaire was adapted from various researches and modified according to the need of this study, therefore it was checked for reliability in order to identify the strengths and weaknesses of the instrument. The following table shows the results of Cronbach Alpha which indicates the reliability value of the instrument.

Table 1. Reliability

Items	Reliability (Cronbach Alpha)
Attention	.768
Relevance	.731
Confidence	.883
Satisfaction	.747
Instrumental Motivation	.721
Integrated Motivation	.778
Total	.929

The data shows the values are favourable for each variable of the study. This level of consistency shows that these sales are reliable enough to be used in this study.

Results

The demographic data are presented in table 2.

Table 2. Demographic data

	Frequency	Percentage
Age		
17-19 years	77	25.7
20-22 years	197	65.7
23-25 years	25	8.3
26 years and above	1	0.3
Gender		
Female	157	52.3
Male	143	47.7

The data shows that a large proportion of the study respondents belonged to the age group 20-22 years, 25.7% were 17-19 years old, 8.3% were 23-25 years old, and only 0.3% (i.e. 1 respondent only) fell in the category of 26 years and above. Further data shows that a little more than half (52.3%) of the respondents were female, and 47.7% were male.

Statistical Analysis

Correlation

The analysis of Pearson product-moment correlation was conducted to investigate and explore the relationship between ARCS motivational design and motivation level of the study respondents and to test the null hypothesis.

H₀: There is no relationship between the ARCS model and motivation.

Table 3 presents the values of correlation for the components of the ARCS model and the motivation of the respondents individually. The inter-variable correlation analysis was conducted by using the Pearson product-moment correlation to examine the strength of the linear relationship between the independent variables of attention, relevance, confidence and satisfaction, and the dependent variable of motivation of the respondents.

Table 3. Correlations

Variables	Pearson Correlation	Sig. (2-tailed)
Motivation	1	
Attention	.814**	.000
Relevance	.486**	.000
Confidence	.405**	.000
Satisfaction	.901**	.000

*Note. **Correlation is significant at the 0.01 level (2-tailed).*

The results for correlations show a significant relationship between all the independent variables, that is ARCS model and motivation. Thus the null hypothesis is rejected. It means that the ARCS model drives a higher level of motivation for the learners while studying English as a second language at the undergraduate level in university.

Regression Analysis

Regression analysis was run to explore the relationship among the variables of the study. This study used the OLS regression model for testing relationships between the independent variables (ARCS model) and motivation. The linear regression equation used for this purpose is presented below:

$$M_{i,t} = \beta_0 + \beta_1 A_{i,t} + \beta_2 R_{i,t} + \beta_3 C_{i,t} + \beta_4 S_{i,t} + \mu_{i,t}$$

Table 4 presents the results of regression analysis undertaken in this study to explain and predict the relationship amongst the four independent variables of the ARCS model (attention, relevance, satisfaction, and confidence) and the dependent variable (Motivation).

Table 4. OLS Regression Estimates on Factors affecting Motivation[a,b,c]

[R^2= 0.835; SEE = 0.13755; F = 372.626; ANOVA's Test Sig. = 0.000] Regression Equation: M = 0.542 + 0.177A + 0.123R + 0.043C + 0.419S					
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	0.542	0.038		14.408	.000*
A	0.177	0.054	0.289	3.285	.001*
R	0.123	0.026	0.199	4.682	.000*
C	-0.043	0.033	0.216	7.651	.000*
S	0.419	0.073	0.594	5.736	.000*

Note. Asymptotic Significance calculated at two levels, .01* and .05**

[a] Dependent Variable: M (Motivation)
[b] Independent Variables: A, R, C, S (Attention, Relevance, Confidence, Satisfaction)
[c] Linear Regression through the Origin
SEE = Standard Error of the Estimate

The regression results show that regressing the motivation against the ARCS model (independent variables) gives an F-statistics value of 372.626. The scores show that the validity of the results stands at the significance level of 0.01 and 0.05. The results show that 83.5% ($R^2 = 0.835$) of the variation in students' motivation to learn English as a second language is supported by the ARCS model variables (attention, relevance, confidence and satisfaction) as revealed by the R-squared. All the independent variables (attention, relevance, confidence and satisfaction) have a significantly positive relationship with the dependent variable (motivation). The results show that the p-value of attention is 0.001, and that of relevance, confidence and satisfaction is 0.000 each.

Discussion

The main aim of this study was to find the relationship between and the impact of the ARCS model on the motivation level of undergraduate students to learn English as a second language. According to Ushioda and Dörnyei (2009), motivation is the most important factor in learning a second language. The current study findings reveal that motivation is the major element that impacts the learning of a second language, and there is a significant positive relationship between the ARCS model and motivation to learn English. Gaining high test scores is a dominant motivation for most students for language learning. Prior studies have shown that it is difficult to be successful in second language learning as it is a complex task that is influenced by various external and internal elements. Motivation is one of the main elements that impact learning a second language. Motivation has been largely recognized as a key aspect that regulates the accomplishment and level of learning a second language. It is one of the chief components that help students to become proficient in a second language because it affects the level of active and personal enthusiasm in learning a second language.

Specific language may have different attitudes. Some could be negative, and some may be positive, but generally, positive emotions enhance motivation (Garcia, 2007; Linnenbrink-Garcia & Patall, 2016). Attitude towards the concept of words is an important factor that plays an important role in teaching and learning languages. Pan, Zang and Wu (2010) maintain that language learning success requires a positive motivation towards the target language.

According to the results of this research, motivation plays a significant role in language learning. It is important to create an encouraging and constructive environment for the students to learn English. The educational institutions should consider the potential strategies for motivating the students to learn English and improve their level of proficiency. It will strengthen the language programs or the activities which involve both teachers and students to inspire communication and improve the experience and the usage of the English language.

Conclusion

The findings revealed that there is a significant positive relationship between tall of the four factors of the ARCS model (attention, relevance, confidence and satisfaction) and undergraduate students' motivation to learn English as a second language. In short, English language learning motivation is a significant element in learning the language. There is the need to uncover the real motivational circumstances of any group of students. This will benefit language learning and provide effectiveness and expertise in this field. The study findings highlight the need for the universities to create an environment where the students can enjoy the process of learning, which will help them to be more effective learners of the English language. Teachers should also motivate their students and encourage them to perform well. In addition, students should practice speaking the English language regularly in the classrooms. The instructional programs for the students should be reliable and help to enhance their motivation and interest so that they enjoy the learning program and want to spend more time in the language class. These programs should complement the goals and needs of learners, and they should be motivating the

learners internally. There are numerous language actions that can be applied to foster motivation that is promoting communication, boosting learners' integrative orientation and enhancing their language abilities. Language instruction activities should deal with the necessities of second language learning and enable the individual qualities to be a part of the language learning process. The authentic activities have the power to bring out the students' knowledge about language, creation and motivate them.

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