

ARCS Model of Motivation

Mark Woolwine

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Executive Summary

John Keller first introduced the theory for the ARCS Model of Motivation in 1979. The model is a systematic method of instructional design. The theory was built around the following motivational concepts: attention, relevance, confidence, and satisfaction. A fifth concept volition was added in 2010. The primary purpose of the model is to maintain the learner's motivation in order for them to learn. It is accomplished by gaining the learner's attention through curiosity and interest; making the material relevant by demonstrating the value of the learning to the learner; building the learner's confidence by boosting their expectations of success; and ensuring satisfaction by reinforcing the learners happiness with outcomes. Using a process to define, design, develop, and pilot the motivational strategies reinforces the systematic method.

A review of the literature suggests that the theory works hand in hand with most instructional design models. Main (1993) demonstrated how the model could be utilized alongside the ADDIE instructional design model. There were many successes and failures noted in the literature. The review of empirical data and application of the model both demonstrate that the ARCS Model of Motivation can be an effective model for addressing motivation of the learner. The literature review shows that ARCS has been applied effectively in classroom instruction, self-paced print, computer-based instruction, and multimedia.

The model was applied to the nursing assistant orientation at Jewish Hospital. An analysis of their current orientation was conducted. A variety of motivational strategies related to attention, relevance, confidence and satisfaction were designed and developed. The nurse educator at Jewish Hospital utilized the strategies created to revise nursing assistant orientation. According to the nurse educator, the strategies were successful in helping to improve the motivation of the nursing assistants at Jewish Hospital.

Introduction

In 1979 John M. Keller published his seminal article regarding the motivation of individuals in learning situations. He believed that “we have not given adequate systematic attention to the problem of motivation in instructional theory and technology, to the understanding of motivation in individual learners, or to the development of a technology for influencing motivation” (Keller, 1979, p. 26). According to Keller (1983), all too often instructional designers believe that if the instruction is good quality, motivation will follow. This is only partly true, according to Keller. Good quality instruction generally "refers to results in more or better learning per unit of time than other comparable methods of instruction" (p. 388).

Keller believed there were two major influences in instructional technology that preceded his work on motivation. The first of the major influences was behavior. The second of the major influences was that of cognitive and instructional theory. Together these two influences have given us partial knowledge of how people learn, and no indication of knowledge about why they learn. Using the metaphors of head, heart, and stomach found in the *Republic* by Plato, Keller identified behavior and cognitive influences as the head and stomach of the learner. Keller believed that the “heart or spirit of the learning, which represents individual determination and persistence” was lacking an adequate approach (Keller, 1979, p. 27). The approach that Keller would recommend is called the ARCS Model of Motivation. Keller (1984), stated that the “ARCS model is a system for improving the motivational appeal of instructional materials, of instructor behavior, and the way in which lessons (or modules) and courses are design” (p. 140).

Description

The ARCS Model of Motivation is comprised of four basic categories of motivational conditions, as well as a systematic process for implementation. According to Keller (1983), instructional designers need to understand and respond to the four basic categories in order to develop instruction that is interesting, meaningful, and challenging to the learner (Keller, 1983).

The original article from 1979 included the following four categories: interest, relevance, expectancy, and outcomes. By 1984, Keller had transformed his original motivational model into ARCS. In this model, interest became attention, relevance stayed the same, expectancy became confidence, and outcomes became satisfaction.

Attention

According to Keller (1984) attention is a prerequisite for learning. As we educate or train learners we must direct the learners attention to appropriate cues. However, before we can direct their attention, we must acquire their attention. Keller (1983) identified five strategies to gain the attention or interest of the learner:

A.1. Use novel, incongruous, conflictual, paradoxical events. Attention is aroused when there is an abrupt change in the status quo (Keller, 1983, p. 401).

A.2. Use anecdotes and other devices for injecting a personal, emotional elements into otherwise purely intellectual or procedural material (Keller, 1983, p. 402).

A.3. Give people the opportunity to learn more about things they already know about or believe in, but also give them moderate doses of the unfamiliar and unexpected (Keller, 1983, p.402).

A.4. Use analogies to make the strange familiar and the familiar strange (Keller, 1983, p.403).

A.5. Guide students into a process of question generation and inquiry (Keller, 1983, p.405).

When trying to capture interest the facilitator should try and create curiosity and wonderment by using novel approaches. Keller (1987b), stated that “a change in voice level, light intensity, or temperature, or a surprisingly piece of information” will help to capture interest of the participant. It is also helpful if the facilitator incorporates personal and emotional material into the training (p. 2).

Relevance

In order to sustain the learner's motivation, the learner must perceive that the material is relevant to them. We have all thought to ourselves before doing a activity "What's in it for me" or "Why should I do this." According to Keller (1984), "relevance can come from the way something is taught; it does not have to come from the content itself" (p. 141). As instructional designers or trainers, the goal of the relevance section of ARCS is to develop activities that will help the learner see how the course or training they are participating in can contribute to or enhance their professional roles and how the training can enrich or enhance their life (Visser, Plomp, Amirault, Kuiper, 2002). Keller (1987a) identified strategies that instructional designers or trainers can use to build relevance into their courses or training:

R.1. State explicitly how the instruction builds on the learner's existing skills (Keller, 1987a, p.4).

R.2. Find out what the learners' interests are and relate them to the instruction (Keller, 1987a, p.4).

R.3. State explicitly how the instruction relates to future activities of the learner (Keller, 1987a, p.4).

R.4. To enhance achievement striving behavior, provide opportunities to achieve standards of excellence under conditions of moderate risk (Keller, 1987a, p.4).

Confidence

Keller (1987b) stated "the fear of failure and attraction of achievement are opposing forces that have a huge influence on motivation (p.4). Keller (2010) went on to say that one of, if not the primary characteristics of confidence is "the perception of control" (p. 158). When people believe that they have little control over themselves, their actions, or what happens to them, they tend to experience anxiety and other stress related emotions. On the other hand, when people believe they have control over themselves, their actions or what happens to them, they

tend to be healthier and more motivated to be successful (Keller, 2010). Keller (2010) provided strategies for instructional designers to utilize to increase learner confidence in the ARCS

Model. The following strategies can be used:

C.1. Establish trust and positive expectations by explaining the requirements for success and the evaluation criteria (Keller, 2010, p. 159).

C.2. Increase belief in competence by providing many, varied, and challenging experiences which increase learning success (Keller, 2010, p. 159).

C.3. Use techniques that offer personal control (whenever possible), and provide feedback that attributes success to personal effort (Keller, 2010, p. 159).

Satisfaction

The final step in ARCS is to create satisfaction so that there will be continued motivation to learn by the participants. One of the important aspects of satisfaction is intrinsic motivation. According to Keller (2010), if learners believe that they achieved a desirable level of success while learning new material, their intrinsic satisfaction will be higher. A second aspect of satisfaction is extrinsic motivation. If the learner achieves their desired extrinsic reward during the training, but believes that the learning experience was a waste of time, then their satisfaction will be less optimal (Keller, 2010). If the learner believes that the results obtained from the training was not equitable based on the amount of time or work they had to put into the course, or if they were not treated the same as other students, their satisfaction will be lowered. There are a few strategies instructional designers and trainers can implement into the training to increase participant satisfaction:

S.1. Provide feedback and other information that reinforces positive feelings for personal effort and accomplishment (Keller, 2010, p. 189).

S.2. Use verbal praise, real or symbolic rewards, and incentives, or let learners present the results of their efforts ("show and tell") to reward success (Keller, 2010, p. 189).

S.3. Make performance requirements consistent with stated expectations, and use consistent measurement standards for all learners' tasks and accomplishments (Keller, 2010, p. 189).

Volition

Keller (2010) introduced or expanded the traditional ARCS Model to include volitional skills. This expanded model is known as ARCS-V. According to Keller (2010), volitional skills are also known as self-regulatory behaviors. With this new addition, the theory takes into account the actions learners will take to reach their goals. Motivation, on the other hand, explains the desires and choices people make. To illustrate this new addition, Keller (2010) gave the example of a student in an introductory psychology course. This student wants to major in psychology, and as a result, wants to achieve a high grade in the course. One week before a big paper is due in psychology his friends ask him to go out that weekend. Based on the new addition of volition, whether the student goes out with his friends or works on his paper will not only depend on his original intention, but also on his self-regulatory behavior (Keller, 2010).

Systematic Design

The systematic design approach is the second part of the ARCS Model of Motivation. This component of ARCS answers the question of how many and what kinds of motivational strategies to use, and how to design them into a course or lesson (Keller, 1987c, p.1). The motivational design process is similar to the instructional design process and has activities or steps, which must be followed to implement motivational strategies. These activities or steps can be divided into four major phases: define, design, develop, pilot.

Define. The define phase has three purposes: audience analysis, motivational objectives, and problem classification. The first step in applying ARCS is to classify the motivational problems that need to be solved. The second step is to do an audience analysis to identify any motivational gaps. The third and final step in the define phase is to prepare or

develop motivational objectives. According to Keller (1987a), “motivational objectives, like instructional objectives, should identify the behavior, conditions, and criteria that apply” (p. 6).

Design. The design phase starts with the motivational objectives created in the define phase. Once the motivation objectives are created, the first step is to create a list of potential motivational strategies for each of the objectives. The second step is to review critically the potential motivational strategies and select the ones that can be used. Keller (1987a) identified five guidelines that can help to select the appropriate strategies. The guidelines are: “(a) not take up too much instructional time, (b) not detract from the instructional objectives, (c) fall within the time and money constraints of the development and implementation aspects of the instruction, (d) be acceptable to the audience, and (e) be compatible with the delivery system, including the instructors personal style and preferences” (Keller, 1987a, p.7).

Develop. During the develop phase, the instructional designer or facilitator should create any special materials that will be required for the training and integrate them to the instruction. Keller (1987a) states, “this usually requires revision of the instructional materials to ensure continuity and internal consistency” (p. 7). Keller (1987c) also states that during the development phase “the motivational material is prepared in conjunction with the instructional material. In fact, the distinction between the two often becomes blurred” (p.6). A good example of when the two become blurred is when an activity, such as a case study, is introduced in the early part of course. The case study can help to establish relevance while illustrating a concept or procedure needed for the participants job.

Pilot/Evaluate. As with any theory, the ARCS Model of Motivation includes a pilot/evaluation phase. In this phase the instructional designer should pilot the initial motivational strategies developed to obtain student reactions to the material. In this phase a determination of student satisfaction levels is important. If the student satisfaction levels are still low, it is necessary to revise the motivational strategies. According to Cheng & Yeh (2009), the

pilot/evaluation phase “is the final critical phase. It comprises implementing the instruction to representatives of the target population, administering formative evaluation and revising the instructional product” (p. 601).

Empirical Evidence

One of the earliest studies about ARCS was conducted by Keller (1984) regarding motivation in teacher training. In the first of two teacher-training workshops, 18 teachers went through the process of defining a motivational problem, creating objectives, selecting strategies, preparing a plan for implementation, implementing the plan, and conducting evaluations. The result of the first workshop was positive. Most of the teachers achieved the motivational goals they had initially set. One of the interesting findings from this study was that many of the teachers noted that based on their training on ARCS, they “simply paid more attention to the student” (Keller, 1984, p. 144). In the second workshop, 16 teachers were asked to define motivational problems and identify instructional improvement problems. This group had trouble distinguishing between instructional improvement problems and behavior modification problems. Those who chose instructional improvement problems made better progress and were more positive to the ARCS model than those who chose behavior modification problems. Keller (1984) investigated why there was a difference between the two groups. He discovered that the first group had worked on systematic development projects in the past. The second group of teachers had not had any type of in-service training. “The teachers were starting from ‘scratch’ in terms of orientating themselves towards a productive experience in the workshop, and towards the specific process of systematic development” (Keller, 1984, p.144). Based on these observations, Keller suggested that those who use the ARCS model need to have a basic knowledge of systematic design.

Means, Jonassen, & Dwyer (1997) investigated the cognitive effects of motivation based on the relevance of what is being learned. Using instructional material on the human heart, the

authors asked one hundred students enrolled either in statistics or human physiology what they learned about the human heart. The class in which students enrolled was the first independent variable. The second independent variable was the inclusion of extrinsic motivation into the course materials. The authors embedded relevance enhancing strategies to the instructional materials. Half of the students in each class received the instructional material that had been enhanced by ARCS relevance strategies and the other half received a basic version of the instructional materials. Upon the conclusion of the study, Means, Jonassen, & Dwyer (1997) found that students who found the material more relevant had higher perceived motivation levels. "The embedded relevance strategies in the instructional materials enhancing motivation and improved performance, especially for the learners for whom the materials were not relevant (statistics class)" (Means, Jonassen, & Dwyer, 2007, p. 14). The authors concluded that the "relevance of instructional materials to particular target groups of learners should be considered when designing instruction" (Means et al, 2007, p. 16). They also concluded that if the instruction is already intrinsically relevant, there are fewer advantages to relevance enhancements.

Tilar and Rossett (1993) looked at the effectiveness of job aids based on the different elements of the ARCS Model. They found the job aids that demonstrated attention, relevance, confidence, and satisfaction captured the attention of those using the job aids. They found that these particular job aids helped the learner more than those that did not include elements of ARCS.

While the previously discussed articles demonstrate the effectiveness of the ARCS Model, there are several articles that demonstrate that there are no instructional advantages for ARCS enhanced instructional materials. Klein (1990) conducted a study to examine the effects of the type of control over instructional strategy, student ability, and locus of control on performance and motivational outcome of confidence and satisfaction. Klein (1990) looked at

seventy-five seventh grade students who were assigned two computer based lessons. One lesson allowed for learner control over the instructional strategy, while the second lesson was externally controlled. Half of the students completed the learner-controlled lesson and the other half completed the external controlled lesson. The authors hypothesized that the type of instructional control, student ability, and locus of control would interact to influence confidence and satisfaction. The study did not indicate any interaction between the two (Klein, 1990, p. 93). Given changes in today's technology it is important to question if this study would still hold true. Computer advancement and the user friendliness of technology could limit the applicability of this study. Many of the e-learning applications today have built-in activities that would help influence the learner's confidence and satisfaction.

Price (1989) examined the influence of textual display (the way information is presented on the page) in printed instruction on learner attention to the instruction and performance of the instructional goal. Ninety teachers were used for the study. They were assigned to one of three groups related to the textual display. Attention was measured using the attention sub scale of the Instructional Materials Motivation Scale created by Keller. The results of the study indicated that learning performance was influenced by the textual displays, but learner attention was not.

A more recent study by DuPont (2012) investigated whether the minimal use of high-fidelity simulations in nursing education could be contributed to a lack of motivation on the part of the nursing faculty. The study looked at the relationship between faculty motivations, as measured by Keller's ARCS model, and the frequency of use of simulation as an instructional strategy in nursing programs. With the dependent variable as the frequency nursing faculty used high-fidelity simulations, Keller's Instructional Material Motivational Survey (IMMS) was administered to the nursing faculty. The results of the study showed a weak to very weak correlation between the four sub scales of ARCS when correlated with the frequency of use of simulation. DuPont (2012) believes this occurred because the high fidelity simulation was

underused due to other factors such as goal conflicts. The nursing faculty knows what they need to do to enhance student learning, but they chose not to action upon that knowledge. DuPont (2012) stated “the results from this study support what Keller recognized in his own research- that the ARCS model works well in situations where a person’s motivation to achieve a goal is strong enough to cause that person to persist in achieving that goal until it is accomplished” (p. 112). Based on the results of this study, DuPont suggested that using ARCS-V might have been better suited to the study because they are looking at the actions people take to achieve a goal (volition).

Review of Application

The ARCS Model of Motivation is used in conjunction with other instructional design models. According to Okey & Santiago (1991) “the task of the instructional designer who wishes to produce instruction that is both effective and appealing is to link the ideas of motivational design to an instructional design theory” (p. 14). Okey & Santiago (1991) demonstrate how ARCS can be paired with Gagné’s instructional design theory, but they state that “any of a number of instructional design theories could be used as a basis of designing instruction with motivational design procedures being adapted to them” (pp. 14-15). With Gagné’s theory of instructional design, the nine events of instruction are used. The idea with ARCS is to not alter the events of instruction, but to modify how the nine events are used in order to have an impact on the “attentiveness of the learner, the perception of the relevance of the learning activities, the confidence that learning will be successfully accomplished, and the satisfaction derived from accomplishing instructional ends” (Okey & Santiago, 1991, p. 15). The overall goal of applying the ARCS Model of Motivation is to take the instructional design processes and apply the motivational design processes so that the content and instruction is enhanced to have the motivational appeal. Main (1993) supports the claims of Okey and Santiago demonstrating how

ARCS works hand in hand with instructional design models. Main (1993) uses the Military Instructional Design Model (ADDIE) to demonstrate the effectiveness of using ARCS.

Figure 1. ISD Model Integrating the Affective Domain

	Instructional Design Phases				
Motivation	Analysis	Design	Development	Implementation	Evaluation
Attention	Determine the nursing assistants interest in the subject matter? What instructional needs are need to arouse their curiosity?	What strategies will gain the nursing assistants attention and keep their interest in the subject refreshed frequently?	Develop strategies that include different visuals, auditory messages, color, etc.	Use analogies throughout the orientation to make the strange familiar.	Look to see if the nursing assistants showed continued interest in learning after orientation.
Relevance	What is the relationship of instruction to the nursing assistants personal and professional goals?	Design strategies early in the orientation to reinforce instruction. Relate the strategies to personal and professional goals.	Development of relevance strategies that utilize testimonials, stories, simulations, etc.	Present learning objectives and training goals to the nursing assistants. Relate these to their Competency Evaluation profile.	Ask how the nursing assistants perceive the will be able to use the knowledge and skills acquired after training.
Confidence	What are the nursing assistants past experiences of success or failures in similar learning situations?	Design strategies around previous successes of the nursing assistant if possible.	Develop activities that increase in difficulty.	Provide varied, and challenging experiences throughout orientation.	Self-evaluation of competence in solving problems and performing tasks will give indication of confidence.
Satisfaction	What are the nursing assistants needs for achievement? Will those needs be best achieved with extrinsic or intrinsic rewards?	Design strategies that will allow the nursing assistants to self evaluation their success.	Develop strategies that focus on competition, peer recognition, or self-evaluation.	Provide opportunities during orientation for nursing assistants who have mastered task to help those who have not done so yet.	Satisfaction can be evaluated by the successful completion of orientation by the nursing assistants.

(Main, 1993, p. 39)

Main (1993) suggested using a diagram similar to Figure 1 to integrate Keller's ARCS model with instructional design models. According to Main (1993) the ARCS model provides a framework for motivation considerations in each of the instructional design phases. For example, in the Analysis phase, the instructional designer should try and determine the "learners' interest in the subject matter and what the instructional needs are to arouse the students' curiosity." (p. 39). Main (1993) suggests for the analysis and relevance block to analyze the relationship of the instruction to the goals of the learners and analyze what needs to be included in the instruction to build on the relationship. During the Analysis and Confidence block, the facilitator or trainer should try to analyze the learners' past experience of success or failures in training situations similar to one being developed and determine what needs to be included to raise the expectancy of success. An analysis of the learners' needs for achievement and "whether those needs are better served by intrinsic rewards" is the last block of Analysis and Satisfaction (Main, 1993, p. 39). These steps are repeated with each phase of the instructional design model. Based on this information, it is important for the instructional designer and facilitator to utilize the ARCS Model in both the instructional design process and the presentation. Figure 1 demonstrates how to included the motivational strategies into the instructional design process.

Shellnut, Knowlton, & Savage (1999) demonstrated how they integrated instructional design and the ARCS model to the design and development of computer based modules for engineering courses. Keller (1999) also demonstrates how the ARCS model was used with instructional design processes to develop computer-based instruction for distance education. A review of the literature suggests that the ARCS model is best used when it is used in conjunction with some type of instructional systems design (ISD). The designer of the instruction should keep in mind the ARCS model as they go about designing the instruction.

The review of empirical data and application of the model both demonstrate that the ARCS Model of Motivation can be an effective model for addressing motivation of the learner. Through a review of the literature ARCS had been applied effectively in classroom instruction, self-paced print, computer-based instruction, and multimedia.

Theory Application: Jewish Hospital Nursing Assistant Orientation

A member of the Jewish Hospital System Education department asked me to help in the redevelopment of their nursing assistant orientation. In order to have a good knowledge of nursing assistant orientation, I asked the nurse educator assigned to work with me on this project to provide some background information on the orientation. Based on her responses, new nursing assistants at Jewish Hospital are required to attend nursing assistant orientation during their first week of employment. The nurse educator provided me with a copy of the nursing assistants job description. The job description provided a better understanding of what each nursing assistant is required to do. This will help making sure the content presented is relevant to the nursing assistants. Based on the information from the job description, the following items are key parts of what the nursing assistants do: Nursing assistants provide direct patient care under the supervision of licensed nursing staff. In order to provide direct patient care, they should be able to obtain basic physical assessment data, provide routine and procedural hygienic needs, assist in meeting patient activity needs, obtain specimens, and use all equipment proficiently. They are required to communicate effectively and appropriately with staff and patients and contribute to maintenance of a clean and safe environment.

In order to gain a better understanding of the context in which the orientation would be presented, I asked for a tour of the area where the orientation would be presented, as well as materials currently in use for the orientation. The orientation is presented in a classroom-style setting (Nursing Education computer lab). Students are seated at computers throughout the orientation, however computers are only used for certain parts of the orientation, such as the

charting. The orientation runs from 8:00 a.m. to 4:30 p.m. The orientation is presented as a combination of PowerPoint slides, lecture, simulation, and group activities. Throughout the orientation, students are encouraged to ask questions, participate in-group discussions, and answer questions asked by the facilitator. To further my understanding of the learners, I asked about their background. According to the nurse educator, the nursing assistants are comprised of experienced nursing assistants (new to Jewish Hospital) and new nursing assistants with no experience. Some of the nursing assistants are currently completing degrees of nursing at local colleges. The nursing assistants range in age from 18 to 65 years old.

Defining the Motivational Problem

Through the discussions with the nurse educator at Jewish Hospital, we were able to define a motivational problem that would help to develop motivational objectives and strategies for nursing assistant orientation. As a result of the Affordable Care Act, the reimbursement of care is based on the quality of care provided rather than the quantity of care provided. Based on this information the orientation needs to focus on the internal motivation of nursing assistants to be the best at providing quality patient care by being proactive rather than reactive.

Designing the Motivational Strategies

Using the materials provided by the nurse educator, I watched and reviewed the current orientation presentation. Using this information and the motivational problem defined earlier, strategies were designed to implement the ARCS model into the nursing assistant orientation. Through discussions with the nurse educator we agreed on different times and parts of the orientation session to implement the following strategies:

Attention Strategies.

- In the introduction, share a story about experiences with nursing assistants and how the nurse and nursing assistants work together as an integral part of the patient care team. Share how the role of the nursing assistant is important to good patient care. (A2)

- Ask the nursing assistants to define how they will provide the highest quality of patient care. How will you increase patient satisfaction? How will you keep your patients safe? (A5)
- Provide variety of typefaces, figures, and tables to sustain attention throughout the presentation. Currently the presentation is a lot of text.
- Use analogies to make the strange familiar. Use props to give nursing assistants the ability to see things that they may be unfamiliar, in order to make them familiar with the different things they will use on the job. For example: how to properly use and trouble shoot a catheter. Have examples of catheters with which nursing assistants can hold, play with, and practice with (A4, R3).

Relevance Strategies.

- Provide learning objectives and training goals to the nursing assistants. At the beginning of the session, ask the nursing assistants to list two things they hope to learn by attending and participating in nursing assistant orientation (R1).
- If possible, show video that would help the nursing assistants understand the value of the material and its relevance to them (R1).
- Provide references to or quotations from previous nursing assistants who can convincingly describe the benefits of the training they received in nursing assistant orientation (R2).

Confidence Strategies.

- Explain the requirements for success and the evaluation criteria. Use the Competency Evaluation Profile (CEP). Explain what the CEP is and how it will be used to evaluate their competence (C1).

- Provide varied, and challenging experiences throughout the orientation. Look at CEP and provide varied, and challenging experiences that will provide the nursing assistants with abilities to learn and practice before evaluation. Provide verbal feedback to learners on how well they accomplish learning tasks (C2).

Satisfaction Strategies.

- Provide opportunities for nurse assistants' who have mastered the task to help those who have not yet done so (S2).
- Provide rewards for participation. Perhaps use KentuckyOne branded materials such as pens, note pads, hand sanitizer. Most learners are new to KentuckyOne and branded material will provide them with sense of belonging to the organization (S2).
- Provide information and opportunities for new areas of application, such as competency liaisons (help with competency stations) and unit based council (S1).

Development of Instruction

The nurse educator at KentuckyOne used the strategies provided to redevelop the nursing assistant orientation. The following changes were made to the orientation: The entire PowerPoint presentation was redeveloped to provide more white space, different typefaces, charts, and graphs. This will help increase learner attention with the material. At the start of the orientation session, the presenter/facilitator will share how the roles of the nursing assistant and nurse work together to provide good patient care. Immediately following, the facilitator will ask the participants to define how they plan to provide highest quality care and how they are going to keep the patients safe while increasing patient satisfaction. The nurse educator will secure various props to use during the orientation to help make some of the unfamiliar concepts more familiar to the nursing assistants. One of the key components implemented is the use of

learning objectives that help to bridge the nursing assistants understanding of material that they need to know for the Competency Evaluation Profile.

Results, Lessons Learned, & Evaluation of the Model

The ARCS Model was successfully implemented into the nursing assistant orientation at Jewish Hospital. According to the Nurse Educator, the results were positive. When asked about the attention strategies recommended for the training, she believed that by sharing a story with the new nursing assistants, she was able to grab their attention so they could better understand how the nursing assistant and nurse work together on the unit. By asking the nursing assistants to define how they could provide the highest quality care, the nurse educator believed the nursing assistants started to think about their role in the hospital in a different manner. She believed it helped the nursing assistants see how important their role in patient care was. With regard to the use of props to help make the unfamiliar familiar, the nurse educator stated that the nursing assistants got excited when they used the props because it helped them better understand the material being covered.

With regards to the relevance strategies provided, the nurse educator believes that the strategies allowed the nursing assistants to see how the material being presented was relevant to the positions. One of the primary strategies the nurse educator stated that she used was providing learning outcomes at the beginning that directly related to the material being taught as well as objectives that covered material they would need for the Competency Evaluation Profile. One particular strategy she utilized was asking the learner to list two things they hoped to learn at the beginning of the training. The nurse educator was able to cover the list of things presented during training, which she felt made the material more relevant for those learners. For this particular training session, the nurse educator was not able to show video or provide references to or quotations from previous nurse educators describing the benefits of the training they received. However, she felt that these two particular strategies would be helpful and has

started conversations with the appropriate people at KentuckyOne to develop the video and get quotes from previous nursing assistants.

The nurse educator said she was able to help build the learners confidence using the strategies provided to her. She stated that by explaining the requirements for success and evaluation, the nursing assistants had a better understanding of what was expected of them. By providing varied and challenging experiences throughout the session based on things they would need to know for the Competency Evaluation Profile, the nurse educator felt that this group of learners paid more attention to the material and had a better understanding of what expect from them as nursing assistants.

As for the strategies presented to the nurse educator for increasing the learner's satisfaction, the nurse educator was not able to implement all of the strategies in this particular session. This session only had one learner in attendance, and as a result was not able to have this particular learner help those who have not a mastered the required tasks. The nurse educator was able to provide rewards for participation. She stated that she passed out hand sanitizer and pens, which are both things used on the job by the nursing assistants. She said the nursing assistant was excited to receive both. The nurse educator was able to provide information on new areas of application to the nursing assistant. She was able to talk with learner about the unit-based council. She stated the nursing assistant seemed excited about being able to provide input into making the work environment better as well as being able help develop better processes for accomplishing tasks.

Overall, the nurse educator felt that the ARCS model was able to increase the nursing assistants' motivation. She stated that the nursing assistants present for orientation left the orientation session excited about becoming nursing assistants and were also excited about helping the patients. When asked if there was anything about the model that did not work or work well, the nurse educator replied that with one learner present some of the strategies were

harder to implement. However, she does not think anything needs to be changed at this time. With more learners present, she believes the strategies will work well to motivate the nursing assistants to be more proactive rather than reactive and that they will be providing higher quality patient care. One suggestion the nurse educator had for others who might try to implement ARCS into a training session was to start small. She felt as though there were too many strategies to implement all at once.

The nurse educator also believed that it could be overwhelming for her other instructors to implement some of the strategies into ARCS without prior knowledge of the theory. We spent a good bit of time discussing the theory and its background. Without this knowledge she stated that she would have “felt lost” trying to figure out why the changes were being made the way they were made. This observation is important in that it relates back to the teacher study conducted by Keller (1984). As a nurse educator, she has basic knowledge of instructional design, along with systematic design processes. Most of the other instructors are nurses who work on the units. These individuals do not have instructional design or systemic design backgrounds. The nurse educator also noted that the learners seemed more attentive during the parts of the presentation that used PowerPoint. She stated that perhaps this was due to the redesign of the presentation to focus on less text and more visuals. If this is the case, it goes against the findings presented by Price (1989). Price (1989) found that learning performance was influenced by the textual displays, but learner attention was not. It is important to note that at the time of the Price (1989) study visual presentation strategies such as PowerPoint were not existent. Presentations were typically presented using overheads with lots of textual information. Lots of text on the overheads might not keep the learners attention. However, with the nursing assistant orientation, the nursing assistants attention could have been gained because of the way PowerPoint presents information.

Through the conversations with the nurse educator, it became apparent that she felt ARCS worked well for what she was trying to accomplish in the nursing assistant orientation classroom. However, the more I thought about what she felt the overarching motivational problem was, the more I felt that ARCS-V would have been better suited for her training or orientation. This was similar to the issue DuPont (2012) faced with the nursing instructors using high fidelity simulation in the classroom. In that study DuPont suggested that using ARCS-V might have been better suited to the study because they were looking at the actions people took to achieve a goal (volition). At Jewish Hospital, it seems that the motivational goal as described by the nurse educator is more related to the actions that the nursing assistants will take after receiving the training.

Conclusion

In summary, the ARCS Model of Motivation provides effective ways to incorporate motivational strategies into instruction. The model suggests that strategies focus around attention, relevance, confidence and satisfaction. A review of the literature demonstrates that it works well with other instructional design models. There have been many articles that support the use of ARCS, as well as many that show that ARCS was not very effective. Using research documented in the different articles cited in this paper, ARCS was used to create motivational strategies for the Jewish Hospital Nursing Assistant Orientation course. Based on the initial training session, the facilitator of the training felt as though the ARCS model helped to increase the nursing assistant motivation. While not all strategies developed were used, the facilitator at Jewish Hospital stated that she would continue to implement the strategies developed based on the ARCS model.

References

- Cheng, Y.-C., & Yeh, H.-T. (2009). From concepts of motivation to its application in instructional design: Reconsidering motivation from an instructional design perspective. *British Journal of Educational Technology*, 40(4), 597-605. doi: 10.1111/j.1467-8535.2008.00857.x
- DuPont, J. S. (2012). Nursing faculty motivation to use high-fidelity simulation: An application of Keller's ARCS model. (Order No. 3547010, Capella University). ProQuest Dissertations and Theses, 162. Retrieved from <http://search.proquest.com/docview/1267836282?accountid=14665>. (1267836282).
- Keller, J. M. (1979). Motivation and instructional design: A theoretical perspective. *Journal of Instructional Development*, 2(4), 26-34. doi: 10.2307/30220576
- Keller, J. M. (1983). Motivational design of instruction. In C. M. Reigeluth (Ed.), *Instructional-design theories and models: An overview of their current status*. (pp. 386-434). Hillsdale, NJ: Lawrence Erlbaum.
- Keller, J.M. (1984). The use of the ARCS model of motivation in teacher training. In K.E. Shaw (Ed.), *Aspects of educational technology volume XVII: Staff development and career updating*. London: Kogan Page.
- Keller, J. M. (1987a). Development and use of the ARCS model of instructional design. *Journal of Instructional Development*, 10(3), 2-10. doi: 10.2307/30221294
- Keller, J. M. (1987b). Strategies for stimulating the motivation to learn. *Performance + Instruction*, 26(8), 1-7. doi: 10.1002/pfi.4160260802
- Keller, J. M. (1987c). The systematic process of motivational design. *Performance + Instruction*, 26(9-10), 1-8. doi: 10.1002/pfi.4160260902

- Keller, J.M. (1999). Using the ARCS motivational process in computer-based instruction and distance education. *New Directions for Teaching & Learning*(78), 39.
- Keller, J.M. (2010). *Motivational design for learning and performance: The ARCS model approach*. New York: Springer.
- Klein, J. D. (1988). The effects of student ability, locus-of-control and type of instructional control on motivation and performance. (Order No. 8822454, The Florida State University). ProQuest Dissertations and Theses, , 148-148 p. Retrieved from <http://search.proquest.com/docview/303675580?accountid=14665>. (303675580).
- Main, R.G. (1993). Integrating motivation into the instructional design process. *Educational Technology*, 33(12), 37-41
- Means, T. B., Jonassen, D. H., & Dwyer, F. M. (1997). Enhancing relevance: Embedded ARCS strategies vs. purpose. *Educational Technology Research and Development*, 45(1), 5-17. doi: 10.2307/30220166
- Okey, J.R., & Santiago, R.S. (1991). Integrating instructional and motivational design. *Performance Improvement Quarterly*, 4(2), 11-21.
- Price, C. B. (1989). The influence of textual display in printed instruction on attention and performance. (Order No. 9012933, The Florida State University). ProQuest Dissertations and Theses, 140-140 p. Retrieved from <http://search.proquest.com/docview/303737256?accountid=14665>. (303737256).
- Shellnut, B., Knowlton, A., & Savage, T. (1999). Applying the ARCS model to the design and development of computer-based modules for manufacturing engineering courses. *Educational Technology Research and Development*, 47(2), 100-110. doi: 10.2307/30221084
- Tilar, A., & Rossett, A. (1993). Creating motivating job aids. *Performance & Instruction*, 32(9), 13-20.

Visser, L., Plomp, T., Amirault, R. J., & Kuiper, W. (2002). Motivating students at a distance: The case of an international audience. *Educational Technology Research and Development*, 50(2), 94-110. doi: 10.2307/30221154