**“An Examination of the Self-Directed Learning Theory (SDL) and its Application into the ADDIE Instructional Design Process”**

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**Introduction**

 With regard to current trends in designing online instruction, it is important to have an understanding of the way adults learn as they make up a significant percentage of online learners. When designing for adult learners it is important to consider all aspects of the adult learning theories and integrate them with the instructional design process model being implemented in order to best facilitate comprehensive learning. This paper will examine the self-directed learning theory (SDL), its application, function and incorporation into the ADDIE instructional design process. A historical overview of the SDL and the ADDIE process will be conducted. Additionally, an exploration of the characteristics of adult learners and how understanding these characteristics can help facilitate adult online learners developing their own self-direction in order to become successful online learners.

**Literature Review**

**Background of Self-Directed Learning Theory**

Self-directed learning theory (SDL) originated with the work of Houle (1961) and Tough (1967, 1971) (Merriam, 2001). Essentially, this theory finds that self-directed learning occurs as a part of adult’s everyday life and is systematic in nature, but does not always depend on an instructor or a classroom. This theory was expanded upon by Knowles (1975) who originally developed the basis for Adult Learning theories with his theory of Andragogy in 1968 in which he distinguished the way adults learn from the way children learn (Merriam, 2001). Knowles described five assumptions on how adults learn; one of these assumptions being that adult learners are self-directed. This assumption essentially states that as people mature (i.e. develop from childhood to adulthood) their self-concept moves from a dependent personality into a more self-directed state (Gerdon, 2012). This assumption lies at the heart of SDL. For instruction to be developed using SDL the instruction should introduce learning experiences that allow for adults to not only be self-directed in completion of the instruction but also to help move them into becoming even more self-directed. According to Merriam (2001) the goals of SDL vary however three specific goals can be posited. The first is that SDL should strive to help develop the learner’s capacity to be self-directed. The second is the fostering of transformational learning and the third is the promotion of emancipatory learning and social action. There are also a number of processes and models that have been generated concerning SDL with the best known being Grow (1991) Staged Self-Directed Learning (SSDL) model.

Grow’s (1991) SSDL model suggests how instructors can actively facilitate students growth into becoming more self-directed learners. Grow’s SSDL model sets four learner stages across a low to high continuum. Stage one is the “dependent student” for whom the teacher is a total authority and coach, stage two is the “interested student” for whom the teacher is a motivator and guide, stage three is the “involved student” for whom the teacher is a facilitator of learning and stage four the “self-directed student” for whom the teacher is a consultant (Grow, 1991). In the SSDL model teachers are to match their teaching styles with the learner’s current stage of self-direction and then continue to prepare them to progress to higher stages. Grow (1991) highlights that some features of self-direction are distinctly situational and that few learners are equally motivated on all subjects. Grow also discusses the results of a mismatch between the type of student and the type of teacher on his continuum and gives specific examples on ways to solve mismatches and help students grow into further self-direction . Grows model is a useful way for ID’s and teachers to help account for a learners current stage of self-direction and useful in helping them understand how to best facilitate more growth. This type of progress into true self-direction can not only be facilitated by the instructors understanding of the students learning type but also by the designed instruction. If such understanding is integrated directly into models and processes of designing instruction then the adult learner is supported two-fold in their journey into self-direction.

**Background of ADDIE**

 The ADDIE instructional design process model is widely used and accepted in the instructional design field (Molenda, 2003). Yet it is not actually an instructional design model. The ADDIE acronym which stands for five different phases of instructional design - analyze, design, develop, implement and evaluate is just that – an acronym or general term used to describe the steps within the instructional design processes. Molenda (2003) finds that the label does not have a single original author, but rather stands as an important umbrella term in reference to existing families of instructional design models that all share commonalities in their structures.

 The first phase of the ADDIE model or the analysis phase a needs analysis is conducted to determine the needs of the targeted learners as well as the actual need for the intended instruction (Peterson, 2003). The skills of the learner are assessed in a learner analysis in order to proceed in conducting a task analysis. Once a learner analysis is conducted the instructional developer (ID) can pinpoint design implications of the project such as choice of language, fonts, time frame, activities and use of text or image based content (Peterson, 2003). Then the ID develops a task list dictating the exact tasks that the learner needs to complete in order to fulfill instructional objectives (Clayton Allen, 2006). This phase is then followed by the second phase which is the design phase.

 The second phase of ADDIE or design phase is the phase in which the ID selects instructional methods, media and determines instructional strategies (Clayton Allen, 2006). In this phase instructional strategies are organized and developed around the instructional objectives. These are developed into expanded events of instruction detailing exactly which organizational strategies and what content will be included at each phase of the instruction.

 The third phase of ADDIE or the development phase is the phase in which the ID uses the results of the previous two phases and starts constructing the actual instruction using the selected mode and media (Peterson, 2003). If media selected includes outside video, sound recordings or other means these are also developed (Clayton Allen, 2006). This is the phase in which the instruction begins to take a real physical and tangible form.

 The fourth phase of ADDIE or the implementation phase is the phase in which the instruction is fully operational and tested (Clayton Allen, 2006). The instruction is tested under as many similar conditions as it would be for the final product. This way any problems or discrepancies can be evaluated and fixed accordingly.

 The fifth and final phase of ADDIE or the evaluation phase is crucial in that it functions as a final phase of the process yet is actually done throughout all the phases (Peterson, 2003). During each phase small evaluations are done as each component of the instruction is completed giving a greater probability to the final instruction being stronger. Final evaluations of the finished instruction are then done in this fifth and final phase. Evaluations consist of formative evaluations (process and product evaluations conducted from the analysis and design phases), summative evaluations (conducted during tests done in the development phase) and operational evaluations (done during the implementation phase) (Clayton Allen, 2006). Once the evaluation phase of the ADDIE process is completed the final instruction is ready for the intended learners.

 The adaptability of ADDIE makes it a strong partner when designing instruction for adult learners using the self-directed learning theory (SDL). When the diverse characteristics of adult learners are taken into account an ID process or model which allows for maximum adaptability helps create stronger and more effective instruction.

**Characteristics of Adult Learners**

 In designing online instruction based on SDL it is important to conduct a specific analysis on the characteristics of adult online learners as they are the specific targeted group. As Grow (1991) illustrates in his SSDL model teachers can be active in analyzing their student’s specific learning characteristics giving them a chance to match their instruction methods with the learner’s stage in the SSDL model therefore giving the learner the best chance at moving forward and progressing with their self-direction. An instructor needs to assess individual and situational differences of the adult learner (Baumgartner, 2003). This is true of face-to-face learning environments as well as online. However, instructors may find it increasingly challenging to fully analyze their learner’s characteristics in online environments. Following this idea, Cercone (2008) postulates that while adult learners grew up learning in historical face-to face and instructor centered environments now they along with their instructors are being launched into online learning and therefore both have to adapt and change how they learn and teach to be successful in this new environment.

 Hence the importance of understanding adult learning theories, specifically SDL and how to successfully integrate SSDL methods into the design and teaching of adult online instruction to effectively enhance the learners experience as well as their progression into full self-directed learning. Cercone (2008) states, “Additionally, instructors, instructional designers and other professionals working in the design of online environments for adults must understand adult learning theory, especially in terms of its relationship to distance online learning” (p.139). For ID’s specifically, this need for understanding includes the need to understand the unique environments and situations adult learners come from as well as their specific learning characteristics and outside responsibilities to best design the instruction. Adult learners are typically different from traditional college students in that they have families and jobs. These result in additional stresses that influence and affect their learning process. Additionally, adult learners have different biological needs specifically due to the way their short-term and long-term memories work (Cercone, 2008). Cercone makes recommendations for online course development based on such characteristics of adult learners. Items such as easy to read fonts, use of graphs, tables and visuals, clear menu structures, use of search and find functions, frequent entry and exit points and consistent practice and feedback . Additionally, strategies for supporting adults being actively engaged in the learning process and using scaffolding of information to promote further self-reliance.

 Further consideration of adult learner characteristics and how to use them to construct meaningful instruction is discussed by Tynjala and Hakkinen (2005). They suggest to enhance further learning development in adult learners instruction should include features such as: learning tasks that help learners connect to their own practical experiences, encouragement of collaboration, integration of different forms of learning activities (reading, writing, discussing, video, image, audio) and structured support of learning in all phases of the learning process. It is important for instructors as well as instructional designers to not only understand characteristics of adult online learners but to take this understanding and apply it to the creation of the instruction.

**ADDIE and Self-Directed Learning Theory**

**Comparison of ADDIE model and Self-Directed Learning Theory**

 Perhaps the strongest connection that can be derived from a comparison of the processes involved in designing instruction for adult learners using ADDIE and integrating SDL within that instruction is the concept of learner analysis or truly understanding the instructions targeted audience: adult learners. In ADDIE conducting a learning analysis in phase one directly affects the task analysis and later design of activities within the instruction. It is here that key concepts of the SDL theory play an important role.

 In integrating SDL with ADDIE understanding the learner’s characteristics is crucial in that SDL is directly based upon Knowles (1975) assumptions of adult learners’ characteristics. Additionally, Grow (1991) SSDL model for implementing SDL highlights the importance of instructors analysis of the learners current state of self-direction in order to best match them in the design of class lessons and activities therefore promoting further self-direction. If an ID is to integrate ADDIE with SDL in the pursuit of the best possible effective instruction then understanding adult learners unique characteristics, understanding SDL and SSDL and then applying that understanding in conjunction with conducting a learner analysis in phase one of ADDIE will result in a successful integration of both the ADDIE process and the SDL theory. As a result of this intense analysis and integration of theory and practice strong instruction directly fulfilling the targeted audience in this case, adult learners will be successfully created.

**Application of Self-Directed Learning Theory in the ADDIE model**

 In regard to the five phases of the process, the ADDIE model can be and is many times adopted and adapted by instructional designers to fulfill their specific instructional design needs. This is why the ADDIE model is a strong choice to integrate with the SDL theory in designing effective instruction. Specific areas of the ADDIE model like the learner analysis in phase one can be used to set a firm foundation for use of the learning theory as well as are adaptable to fulfill the specific needs of the instruction being designed.

 An online course designed specifically for adult learners using ADDIE, integrating SDL and using Grow’s SSDL approach will then be learner centered rather than teacher centered fulfilling a commitment to enhance their progress in becoming better self-directed learners. As Gerdon (2012) describes, “Students should be able to use the technology and resources provided (from the course designer) to facilitate self-directed discovery and learning” (p.22). Some activities to consider would include additional web link resources for each lesson, student discussion sessions, case studies and instruction that allows students to move ahead and return as they find necessary (Gerdon, 2012). Additionally, a task of the facilitator (whether ID or instructor) of the instruction is to present the learners with alternatives to their current thinking. According to Brookfield (1988) adult learners who engage in this in this type of critically reflective learning imagining different alternatives to their previous assumptions are moving closer to being self-directed learners.

**Conclusions**

 This paper examined self-directed learning theory (SDL), its application, function and incorporation into the ADDIE instructional design process. It also explored the characteristics of adult learners and how understanding these characteristics can help facilitate adult online learners developing their own self-direction in order to become successful online learners. Conclusively, Brookfield (1988) states “It [self-directed learning] is rather a matter of learning how to change our perspectives, shift our paradigms, and replace once way of interpreting the world by another” (103). Careful consideration has to be given to the application of self-directed learning theory into the design of adult instruction. It is this consideration and application that will help establish a strong foundation and support for future self-direction.

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