

## **Classroom Learning Assessment Interpretation in Journalism and Mass Communication in Higher Education: A Focus on Andragogy in Radio/ Television/ Film Production**

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### **Abstract**

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Social scientists, instructors and institutions use classroom-learning assessment to measure attitudes, behaviors, emotions and personalities. Whatever the focus and format, the basic purpose of classroom assessment is to determine what learner's want and educators need to improve learning. This study explored the conflicting notion that the most dominant form of instruction in higher education is pedagogy, referred to as traditional or teacher-directed study. Andragogy is the competing idea in terms of instructing adult learners and recently has gathered momentum. This study argued that the concept of assessment in radio/television/film production courses in higher education depends on reliability and validity. For an assessment to be accurate and balance, they must be free of bias and distortion, provide barrier-free environments to both non-traditional and traditional learner.

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**Keyword:** Classroom Learning Assessment, Andragogy, Pedagogy, Humanist, Constructivist, Journalism and Mass Communication

### **Introduction**

The idea behind interpreting classroom-learning assessment in higher education is centered on the course, accountability, learners and instructor's progress in the area of radio/television/film production. Higher education instructors are expected to enhance learner's outcome and document how instruction has affected outcomes, as the outcomes are directly involved in the delivery of knowledge and skill to the understanding and support of adult learners. The interpretation of classroom-learning assessment enables the instructor to reflect upon the course instruction, and learner's progress in order to identify areas of strengths and weaknesses in radio/television/ film production.

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Angelo & Cross, (1993) stated that classroom assessment interpretation helps college instructors to obtain useful feedback on what, how much, and how well their learners are learning. This exploration addresses the concern that many adults in higher education are left feeling inadequate after completing radio/television/film production courses. A comparison was made to the observation of the fact that traditional students appear to adapt more quickly to radio/television/film production course in higher education environment. This research focuses on elements of radio/television/film production courses that are barriers or hurdles to learning from an andragogical perspective. This study discussed whether thinking skills are required within the subject area and if the classroom exercises that tend to engage traditional and non-traditional learners are best assessed within the context of real-world situations (Airasian, 2000). The purpose of this study is to validate the assessment of andragogical focus of educators in journalism and mass communication production courses and fill the gap in significant emptiness of adult learners in higher education. The study also discussed the andragogical behavior of individual learners' learning outcomes and attitudes, values, and self-awareness toward their learning experience. It briefly reviewed performance assessment, and finally examined reliability and validity of classroom-learning assessment. The investigator concluded by analyzing the conflicting perceptions and unanswered question that pedagogical behavior helps traditional learners adapt better to the classroom learning assessment instrument in radio/ television/film production courses. Therefore, instructors teaching radio/ television/film production courses should design their production project, classroom learning assessment to provide barrier-free environments that facilitate equal opportunities by arranging reasonable accommodations in academic adjustments, supplementary assistances and services, training, session, and practical assistance to both non-traditional and traditional learner.

### **Statement of Problem**

This study tends to answer the question, if there is a difference between pedagogy and andragogy classroom-learning assessment and what are the conflicting perceptions that pedagogical behavior helps traditional learners adapt better to the classroom learning assessment instrument in radio/ television/ film production courses. Studies on andragogy have left unanswered questions about the conflicting perception that pedagogical behavior helps traditional learners adapt to classroom learning assessment instrument better than adult learners in radio/television/film production courses (Merriam et al., 2007, Rachal, 2002).

Research has also failed to assess the effectiveness of using either classroom learning assessment or the principles of andragogy in the adult learning environment (Rachal, 2002). With the influx of non-traditional learners returning back to the radio/television/film production courses classroom in higher education, the need to find how the traditional student and adult learners adapt to learning assessment is even more important. The researcher used a qualitative approach and unified literature review from the combination of many results of scholarly works available on classroom learning assessment interpretation in higher education.

### **Research Questions**

This study was guided by three research questions (RQs):

RQ1. Is there a difference between pedagogy and andragogy classroom-learning assessment?

RQ2. How do pedagogical behavior help traditional learners adapt better to the classroom learning assessment instrument in radio/ television/ film production courses?

RQ3. Do educators use classroom learning assessment interpretation to provide barrier-free environments that facilitate equal opportunities?

### **Theoretical Framework**

The theory of constructivism is attributed to Jean Piaget, whose developmental theories have been widely discussed in the educational field, which is the theoretical framework of this study (Dogini, 2012). Piaget theory is "the most global theory of intellectual development" incorporating the nature of knowledge and skill, and how traditional and non-traditional learners gradually acquires it, construct it and use it (Ormrod, 2008). Constructivists believe that learning is an active, social process, in which learners construct meaning of their world with the support and understanding of educators (Driscoll, 2005; Ormrod, 2008). Constructivism allows learners to discover how learning occurs in the environment. The constructivist theory of learning asserts that knowledge and skill develops through action and reflection (Driscoll, 2005).

Medrano (2005) asserted that constructivist theory suggest that knowledge and skills are not something that already exists, but something that each learner, through incorporation of new information into the existing information, creates on their own (Dogini, 2012). Constructivists suggest that although the learner constructs all knowledge, it is also influenced by the learner's external relationships with the environment (Dewey, 1952). These perspectives that learners construct knowledge, place the lead for directing learning directly in the hands of the learner (Ormrod, 2008). The way individuals gain skill, knowledge and interpersonal aptitudes are the focus of individualism (Ormrod, 2008). This thought is grounded in the study of individual needs and interests. Huitt (2009) asserted that philosophers are concerned in the study of self, inspiration and setting objectives. He also believes that a learner can live a moral, cheerful, and constructive life on the foundation of his/her own reason and knowledge, without relying on solely on educator (Schafersman, 1995). According to Huitt (2009) humanists believe that the destiny of a learner should not rely on classroom assessment interpretations; individuals should decide their own approach. Humanists believe that educators in higher education should endorse learner's personal freedom, choice and responsibility since they are independent individuals (Ormrod, 2008).

According to Gutek (2004) humanists believed that individuals have the ability of achieving their objectives if they are given the opportunities to relate their way of thinking to the problems in the society. Theoretical perspectives identified from reviewing literature on elements of radio/television/film production courses, there are barriers and hurdles to learning from an andragogical perspective. The conflicting notion becomes dauntingly complex and complicated processes, that the study of theory of education has prompted educators to be concerned and adopt classroom learning assessment interpretation in radio/television/film (Dogini, 2012). The perspective of theorist such as John Dewey and Jean Piaget is that classroom assessment interpretation facilitate new experience and a new way of life long learning (Ormrod, 2008). According to Vygotsky (1978) collaborative activities and social interaction such as classroom learning assessment interpretation are important in educating and aiding traditional and non-traditional learners. From the humanist perspective, learning should not only be addressed through classroom assessment interpretation approach, but also through individual approaches, and classroom guidance approaches (Huitt, 2009). From a constructivist perspective, it is a process in which new ideas or concepts are constructed or built based upon current and past knowledge or experience (Ormrod, 2008).

## Literature review

Based on limited studies on the conflicting perception, that traditional students acclimate better to classroom learning assessment in journalism and mass communication production courses than non-traditional learner (Pratt, 1993). Consequently, an evaluation of classroom assessment instrument, principle of andragogy and their effectiveness in higher education learning environment is needed. Rachal (2002) noted that until andragogy is sufficiently studied and assessed in higher education environment with adult learners, studies that exist would remain compromised as to any conclusions about the effectiveness of classroom learning assessment instrument and the principle of andragogy. Very few studies have attempted empirical investigation of andragogy (Merriam et al., 2007). Cross (1981) posed the question, "does andragogy lead to researchable questions that will advance knowledge in adult education?" (p. 228). Pratt (1993) raises concerns about the lack of empirical studies: "We cannot say, with any confidence, that andragogy has been tested and found to be, as so many have hoped, either the basis for a theory of adult learning or a unifying concept for adult education" (p. 21).

Today andragogy in higher education is the focus of research in education and it's a new way of teaching adult learner compared to traditional learners in radio/television/film production courses with an abundance of information available to provide clarification and proper interpretation. Studies related to what, where, how, and why adults learn as well as how they develop and mature throughout radio/television/film production instruction have not been documented (Merriam, 2001). Because of lack of studies that compares non-traditional learners and traditional learners in radio/television/film production courses as relates to assessment interpretation in higher education research has signaled the need for new approaches to teaching and learning assessment in radio/television/film production. Dirkx and Prenger (1997) offered a summary based upon the research and theory of andragogy and transformative learning theory of the characteristics typified by the adult learner. Taylor, (2008) stated that transformative learning theory is one of the leading adult learning theories even though learners and instructor find it difficult to understand and apply.

Educators interested in teaching nontraditional learners in developing or reconsidering life and their personal career direction and career exploration, the theory of transformative learning assist to describe the process that occurs in life undertakings, as it relates to self-directed learning (Kroth & Boverie, 2000). Mezirow's (2000) theory of transformation advocated that adult learning is a result of deliberate inquiry, which is a by-product of another intentional learning activity that is incidental or assimilative and it's mindless. Mezirow, (1985) asserted that, "understanding of the historical, cultural, and biographical reasons for one's needs, wants, and interests.... such self-knowledge is a prerequisite for autonomy in self-directed learning" (p. 27). Kitchenham, (2008) and Taylor, (2007), asserted that the transformative learning theory has been expanded by scholars since Mezirow (1991) first proposed it.

The importance of self and self-directedness are primary considerations when teaching adult learners. There has been a conflicting notion that the most dominant form of education is pedagogy, referred to as traditional or teacher-directed study (Merriam, 2001). According to Tennant and Pogson (1995), the concept of self-directed learning, "is firmly entrenched in contemporary thinking about adult education" (p.121). Because of this conflict from a pedagogical vs an andragogical approach, the instructors present the adult with alternative ways of interpreting the world or of creating new personal and collective futures (Saunders, 1991). In traditional setting the instructors are believed to be the master technicians who operate within a moral vacuum and are constrained from offering value systems, ideologies, behavioral codes, or images of the future that the adult has yet to encounter (Brookfield, 1986, p. 6). Adult learners need academic freedom, to be able to find "different methods of interpreting their environment" if they are to make enlightened decisions regarding their situation and state of actuality (Brookfield, 1986). Knowles et al. (1998) used several dimensions to examine adult's need to know how learning will be conducted, the need to know when learning will occur, and knowing why learning is important at all. Andragogy is the competing idea in terms of instructing adult learners, which has recently gathered momentum. Pedagogy is referred to as the art and science of teaching children and andragogy is the art and science of helping adults learn. The pedagogical model has always been used to the teach children and adults (Knowles, 1984). Adults are independent learners who are responsible for their own actions. Their motivation to learn is to solve immediate problems in their lives, which requires self-directing.

In many ways the pedagogical model does not account for such developmental changes on the part of adults, and thus produces tension, resentment, and resistance in individuals (Knowles, 1984). As a person matures, the motivation to learn is internal (Knowles, 1984). Knowles, (1989) believed that adults learn differently compare to children and should be assessed differently. Merriam (2001) noted that self-directed learning has “helped bring to the forefront the importance of informal learning that occurs as we go about our daily lives” (p. 94). The psychological understanding of the term adult is when a person has achieved a self-concept of being responsible for himself or herself and self-directing (Merriam, 2001). It is the assumption that at the adult stage, a person has arrived at self-concept and needs to be seen and treated by their instructors as being capable of self-direction. Merriam, (2001) argued that individual effort, social life, public life and their everyday experiences are interspersed with occurrences of learning experiences. However, most adult learning is still instructor designed and directed (Merriam and Caffarella, 1991).

Studies have shown that many adult learners have experienced some struggles in their personal or community life. As a result have the option to return to school to improve their self- esteem, economic security, and social status. Apps, (1981) asserted that adult learners returning to higher education were influenced by their readiness to improve professional growth, self- esteem, long-range economic security, increased salary, social status, family expectations, and peer opinion. Aslanian (2001) studied 1500 adult students undergoing a life transition, in their career transition, and found the transition served as the catalyst for returning to school. Cranton (2000) stated that, adult learners choose programs such media production courses, or workshops in their field, based on their sometimes immediate and/or practical interests and needs (p. 72).

The outstanding features in studying classroom learning assessment interpretation in higher education to teaching journalism and mass communication production has been the shift in the focus of attention, towards greater interest in assessment and classroom learning. Research on classroom learning assessment interpretation indicates that improvement in classroom learning assessment in radio/television/film production will contribute to the improvement of learning for adult learners in higher education. Brookhart & Bronowicz (2003) conducted a research project on multiple case studies. They interviewed learners from different schools looking at different learning assessments.

They observed learner's insights of learning assessments, the assignments interests and importance, learner self-efficacy for completing tasks and their goal orientation, and the learning assessment environment. They found that no matter what the learning assessment, learners were more concerned about their needs and interests (Brookhart & Bronowicz, 2003). Brookhart (2001) explored learner's perceptions about classroom assessment by looking at both formative and summative aspects. The learners selected for the study were successful adult learners ready to make the transition to higher education. The contribution of this study documented and illustrated the way successful adult learners use assessment information. Instructors in higher education are unaware of the assessment effort of colleagues and do not trust or use colleague's assessment results (Cizek et al., 1995; Hall et al., 1997). In radio/television/film production courses' projects, most instructors' learning assessment interpretation focuses on basic aims, mainly recall of knowledge and skill. According to Stiggins et al., (1989); Schilling et al., (1990); Pijl, (1992); Bol & Strage, (1996); Senk et al., (1997), there is little focus on such outcomes as speculation and critical reflection, instead adult learners focus on getting through the tasks and resist attempts to engage in risky cognitive activities (Duschl & Gitomer, 1997). Mezirow (2000) suggested that critical reflection by adult learner in transformational learning is central to the process. Occasionally, the instructor can predict the performance of the adult learner compared to younger learner on project reflecting on basic aims, because the instructors' assessments do not tell what he needs to know about the learners' learning (Lorsbach et al., 1992; Rudman, 1987).

Ramaprasad, (1983) and Sadler, (1989) in their study identifies that the core of the activity of formative assessment lies in the categorization of the learners perception of a gap between a desired goal and his/her knowledge, understanding and skills. They also asserted that the adult learners take action to close that gap in order to attain the desired goal (Ramaprasad, 1983; Sadler, 1989). Ames & Archer (1988) studied the goals that adult learners already held and found that those with mastery orientation and those with performance direction spoke of the importance of learning, believed in the value of effort to achieve mastery, and had a generally positive attitude to learning. They suggested that the attributed failure to lack of ability, spoke more in terms of their relative ability, about learning with relatively little effort if able, and focused on the significance of out-performing others (Ames & Archer, 1988). The investigator collected substantiate number of data from traditional and non-tradition learners' point of view on the difference between pedagogy and andragogy classroom-learning assessment.



The characteristics of adult learners investigated in this study set them apart from traditional undergraduate college students as well (Cook, 1993).

## **Methodology**

### **Research Approach**

This study used a grounded theory approach, since the research involved investigating the conflicting perceptions and unanswered question that pedagogical behavior helps traditional learners adapt better to the classroom learning assessment instrument in radio/television/film production courses. And explored the elements of radio/ television and film production courses to understand the barriers or hurdles to learning from an andragogical perspective. This grounded theory approach validated the assessment of andragogical focus of educators' classroom learning assessment interpretation in radio/television and film production courses and filled the gap in significant emptiness of adult learners in higher education.

The methodology used by the researcher to explore the concern of learners in this study evolved from a grounded theory qualitative approach and unified literature review from meta-analysis of scholarly works available on classroom learning assessment interpretation in higher education. In an effort to understand and capture the meaning of the conflicting notion that the most dominant form of instruction in higher education is pedagogy in radio/television/film production, as interpreted within its context, the researcher used grounded theory approach, an inductive qualitative research method. Grounded theory is rooted in social interactionism and contains components that guided educators in radio/television/film to address the critical components that affect the success of classroom learning assessment interpretation (Glaser, 2004). Also, the investigator used a unified literature review to review and synthesize descriptive literature on the results of conflicting perceptions that pedagogical behavior helps learners adapt better to the classroom learning assessment instrument in radio/television/film production courses. A unified literature review on andragogical behavior was essential to generate new frameworks and perspectives on classroom learning assessment interpretation in radio/television/film production courses (Torraco, 2005). The study of andragogy in radio/television/film production courses lacks recent inclusive meta-analysis study, as a result this unified literature review was appropriate.

## Research Strategy

This researcher collected data using semi-structured interviews and analyzed it using grounded theory methods. The interview questions yielded opinions on the conflicting notions and whether classroom learning assessment interpretation used by educators are addressing the unique experiences of individual learners' barriers or hurdles to learning from an andragogical perspective. Participants in the study were instructors, traditional and non-traditional learners who provided comprehensive response from their own point-of-views on the difference between pedagogy and andragogy classroom-learning assessment. The investigator conducted an extensive search with the terms "andragogy, pedagogy, assessment, media production courses, assessment interpretation, and assessment instrument", and found that there was limited information on learning assessment in radio/television/film production courses in higher education to assess the assumption to andragogy. This absence of recent studies in learning assessment of non-traditional learners in radio/television/film production courses suggests the need for a study of andragogical orientation of assessing adult learners in media production courses. Through this meta-analysis and grounded theory approach of semi-structured face-to-face interview of instructor, traditional and non-traditional learners, foundation for more investigation in this area will be positioned to create new channels.

## Research Instrument

A face-to-face semi-structured interview was adopted to provide descriptive information about the technical and logistical enactment of the use of radio/television/ film production tools and equipment. This approach was used to identify the implications of classroom learning assessment interpretation from learners' point-of-view. Face-to-face semi-structured interview provided a better understanding on respondent's meanings, valuable information, data, ideas, and issues that were adjusted as they emerge, also served as an instrument to generate theories. By talking to and observing the participants, the process occurred naturally. The procedure started with face-to-face interviews, and involved observing and gauging to understanding the interviewee, and responses were recorded only after a participant understood the question. To answer these questions, the researcher adopted a data gathering strategy such as analysis of participant's response from semi-structured interview.

The themes from their responses were coded and after coding of the data collected, the evaluator identified recurring themes, which were recorded and categorized. The semi-structured interview responses were separated by categories and then by age. Results from data analysis guides decision-making for investigating or exploring classroom learning assessment interpretation or lead to new questions to be addressed by educators of radio/television/film in higher education

## Sample

This study included a representative sample of educators, traditional and non-traditional learners that are involved in classroom learning assessment interpretation to explain their point-of view. The sample size was 22 respondents, selected from educators, traditional and non-traditional learners from radio/television/film in higher education. The reason behind selecting respondents that are involved in learning assessment was to find out the difference between pedagogical and andragogical classroom-learning assessment and understand how pedagogical behavior helps traditional learners adapt better to the classroom learning assessment instrument in radio/television/film production courses. This study relied on the participants' points-of-view, as well as unified literature review of classroom learning assessment interpretation from meta-analysis of scholarly works. It is also important to recognize that the researcher's background may shape the interpretation, thus it was the responsibility of the researcher in this study to recognize the flow of the interpretation from the educator, traditional and non-traditional learners' personal, cultural and historical experiences (Creswell, 2009).

## Discussion

### Andragogy and Pedagogy Assessment

A contrast and comparison of pedagogical and andragogical approaches to adult knowledge acquisition in radio/television/film production courses showed fundamental differences, primarily in learning expectations of traditional and non-traditional learners. The most significant difference between pedagogy and andragogy is the focus on the learning.

Whereas pedagogy is focused on learning content, andragogy focused on the learning process. Kerwin (1975) stated that the "role of the andragogical educator is that of a procedural guide, facilitator of learning, and learning consultant rather than a director of learning and a transmitter of knowledge" (p. 14). To understand the argument of classroom learning assessment interpretation to teaching journalism and mass communication production courses, and the conflicting perception, the labels 'andragogy and pedagogy' must be clarified. Teaching adult learners in journalism and mass communication production courses as compared to non-adult learners or traditional learners was introduced in 19<sup>th</sup> century with the assumption that the same methods and techniques used to teach younger learners could also be applied to adults. The word andragogy refers specifically to the art and science of teaching adults and is focused on what adults learn versus what they are being taught. Goodmurphy et. al., (2000) report, stated that andragogy assumes that adults already have a significant amount of experience, worked in the field and familiar with the media tools and are capable of making well-informed choices in their learning encounter and learn well when the educator or facilitator uses a mixture of teaching styles, some of which may be 'pedagogical' in nature.

In higher education it is very difficult for instructors to change methods of instructions, which are implanted within their whole arrangement of pedagogy (Torrie, 1989; Shepard et al., 1994, 1996; Shepard, 1995). Many of the methods of instructions adopted by radio/television/film production instructor lacks classroom learning interpretive frameworks that is needed to co-ordinate all areas of classroom learning assessment information when it concerns broad learning purposes (Bachor & Anderson, 1994) which often fails to produce its effect. Most projects with instructors in the classroom learning interpretive frameworks are designed by faculty professional development. These are designed to train instructors to communicate with adult learners in order to appreciate the adult learners' view of their own work. It was found that despite the training by faculty professional development, most instructors that went through that training stuck to their own schema and failed to respond to hints from the adult learners, which could have re-oriented that schema (Radnor, 1994).

### Interpretation of Classroom Assessment

Research has shown that lectures are most effective if they can be interrupted with some learning exercise. These exercises are called "Classroom Assessment Techniques (CAT)" which often serves two purposes.

Engaging the non-traditional learners more actively with the material gives the instructor a sense of what the learners are getting out of the class. Classroom learning assessments include recording notes while observing the adult learner in the process of learning, collecting feedback on adult learner's learning, as a result classroom instructor learns how students learn and how adult learners respond to a particular teaching approach in radio/television/film production courses in higher education.

### Developing Performance Assessment

The process of developing an assessment for non-traditional learners begins with the identification of knowledge and skill areas that are difficult to measure with traditional item types used in radio/television/film production courses; for example software tools are commonly used as part of classroom instruction and physical tools (e.g., camera, lights, tripod and studio equipment) are used in the classroom instructions and projects (Airasian, 2000). Specific areas where thinking skills are required within a subject area and the classroom exercises that tend to engage and develop these skills and concepts, and problem-solving skills are best assessed within the context of real-world situations (Airasian, 2000). In developing the performance assessment the instructor selects the performance that reflects the valued activity. He/she selects the type of activities that are used in the workforce. The performance assessment allows learners the opportunity to display their skills and knowledge in response to "real" situations (Airasian, 2000). The instructor selects task that at the completion of performance assessments will provide a valuable learning experience. In developing the assessment the instructor makes sure that the statement of goals and objectives are clearly aligned with the measurable outcomes of the performance activity (Borden & Banta, 1994). He/she makes sure that the assessment is fair and free from bias and the phrasing of the task is carefully constructed in a manner that eliminates age and ethnic stereotypes. Additionally, the task should not give an unfair advantage to a particular subset of learners (Borden & Banta, 1994).

### Assessing Learner Attitudes, Values, and Self-Awareness

Angelo & Cross (1993) noted that the active engagement of non-traditional learner in higher education learning implies and requires self-awareness and self-direction. Adult learners can be taught to control their learning environment through monitoring, anxiety reduction, self-regulation, and similar strategies (Angelo & Cross, 1993). Course-related self-confidence surveys are designed to assess monitoring and are self regulated. Course-related self-confidence surveys are strategies that learner need to develop in order to create and maintain a physical and emotional climate that is conducive for learning. Course-related self-confidence survey is a classroom assessment technique (CAT) used to assess awareness of attitudes and values when instructor want to understand and estimate levels of time/energy adult learner is require to prepare, to respond and also used to analyze learners' attitudes and values. The instructors ask learners to complete a brief course-related self-confidence survey that measures their confidence in at least three skills or abilities important to success in the course (Angelo & Cross, 1993), by coordinating few simple questions to help get a measure of the learners' self-confidence in a specific skill or ability that is new, unfamiliar, or familiar that contributed to the learner's failure to learn previously (Angelo & Cross, 1993). The instructors construct survey items to determine students' self-confidence in domain-specific and/or course-specific skills such as reporting a news story or anchoring news broadcast. The survey items are aimed at getting a rough measure of the learner's self-confidence in reporting a news story and anchoring a live broadcast (Angelo & Cross, 1993). Learners who are self-confident in all phases of the radio/television production course may lack confidence in their abilities or skills to report news story or anchor news broadcast, because they want to be behind the scene.

### Results From Classroom Assessment Techniques (CAT)

Using the response received from the investigation of assessment technique from the educators, traditional and non-traditional learners, the results that emerged from the participants were used to improve instruction in the radio/television/film production course. Classroom Assessment Techniques (CATs) allow instructors to collect information from their learners about what they are learning in class and interpret it (Angelo and Cross, 1993). CATs are typically ungraded exercises submitted anonymously by learners, producing honest feedback from the learners.

The CATs result allows learners and instructors to see flaws in learner understanding the main point of a lesson and address the issues before the next class session or project. Angelo & Cross (1993) asserted that through the result of the CAT, the teacher demonstrates respect for and interest in learners' opinions and encourages the learner's active involvement in the learning process.

According to the response received from the respondents, noted that teachers become more systematic about testing their assumptions and intentions against learner perceptions or understandings and regularly check out how well their plans for learners learning are working. CAT provides real-time feedback to find out if learners recognized the main points of the project or are confused, which helps the instructor to craft changes for the next project (Angelo, 1994). There are question format for CAT, which are used to improve the quality of information obtained from this technique. The question format are when most of the learners reports what they found to be the most interesting and the questions allowed the learners to report their most interesting point-of-view from the lectures. The learning assessment technique helps the instructor to obtain quality of information for that class project. The result from the assessment technique makes it easy for the instructor to determine if the learners focused on the major points of the project and see that the learners understood the applications of the material, which are often answered as the most interesting point of the project (Angelo, 1994). The result from assessment technique helps the instructors to better understand what learners know (Angelo, 1994). The interpretation of the result helps the instructor to make decisions about the amount of effort given from instructor and learners. The instructor uses the result to guide himself in constructing the project for next class assignment. The result derived from CAT is used to make adjustments to the instructor's teaching style and teaching methods, with the ultimate goal of improving adult learner learning in higher education (Banta, 1993). In addition to using the results to improve teaching methods, the instructor uses the results from the CAT for summative purposes, to document his/her effectiveness as a teacher. Research has proven that the result from CAT is used to improved learner learning in radio/television/film production courses (Angelo & Cross, 1993).

## Interpretation of Assessment Result

Assessment is a process of gathering and documenting information about the achievement, skills, and abilities of an individual. Instructors use the interpretation of assessment result in an educational setting to accomplish a range of objectives (Weiner et al, 2003). Weiner et al, (2003) asserted that educators use interpretation of assessment result to learn more about the competencies and deficiencies of the individual being tested or assessed. Same as to identify specific problem areas and/or needs; to evaluate the individual's performance in relation to others; to evaluate the individual's performance in relation to a set of standards or goals and to provide teachers with feedback on effectiveness of instruction (Weiner et al, 2003). Assessment can be interpreted using theoretical viewpoint. Weiner et al (2003) stated that a theory based-approach of interpreting assessment allows the instructor to make predictions with greater specificity and utility. The ultimate use of interpreting an assessment result is to identify the areas that learners need improvement (Weiner et al, 2003). The objectives of interpreting an assessment in journalism and mass communication is to ensure that the student views the assessment in an objective and holistic perspective, agree on the students strength and to prioritize areas for improvement that will need further action.

## Criterion-Reference Interpretation

Gronlund & Waugh (2009) stated that norm-reference and criterion-reference interpretation are used in standardized test, because they play important role in instructional program. Criterion reference interpretation compares a student's performance to a well-defined content domain, or set of specific objectives. Criterion-referenced interpretations are accomplished by relating to specific learning tasks a learner is able to perform and demonstrating the percentage of tasks a learner performed correctly. A criterion-referenced interpretation compares the test performance to a set performance standard and decides whether the learner meets a given standard (Gronlund & Waugh, 2009). Criterion referenced interpretations deals with the learner's performance within the specific domain and evaluates the learner's ability within that domain but does not deal with what is typical or reasonable with regard to others (Shepard, et. al., 1996). Gronlund & Waugh, (2009) stated that the use of a criterion-referenced interpretation depends on the need and is used once the content domains are well defined. Criterion-referenced tests documents individual performance in relation to a domain of information or specific set of skills.



## Reliability and Validity

For an assessment in radio/television/film to be accurate and balanced, they must be free of bias and distortion. Reliability and validity defines and measures bias and distortion in radio/television/film production. Stiggins (2001) defines reliability as the extent to which assessments are consistent and validity as the accuracy of an assessment regardless of what it measures, asserting that even though a project is reliable, it may not provide a valid measure.

## Identifying Threats to Assessment Validity

Classroom teachers' apprehension with validity is always about the quality of the inferences he/she makes about a learners' grasp of the project in radio/television/film production courses, as well as the quality of the learner pedagogical decisions and actions. Gronlund & Waugh (2009) noted that validity is the most important quality to consider in preparing and using learning assessment procedures when teaching journalism and mass communication production courses. Validity and reliability have been of great concern to educators of radio/television/film in higher education. Validity is an overall evaluative judgment, founded on empirical evidence and theoretical rationales, of the adequacy and appropriateness of inferences and actions based on project completed (Bachman 2002). Bachman, (1990) stated that validity has been identified as the most important quality of production and project use, which concerns the extent to which meaningful inferences can be drawn from production or project completed.

## Categories of Validity

There are four categories of validity; predictive validity, concurrent validity, content validity, and construct validity. For this study we will consider construct validity. Construct validation is involved when a learning assessment in radio/television/film production course is to be interpreted as a measure of some attribute or quality of an adult learner, which is not "operationally defined" (Bachman 2002). Thus, construct validity calls for no new scientific approach. Most research on testing of personality is construct validation, usually without the benefit of a clear formulation of this process (Bachman 2002).

Construct validity is identified by investigative procedures, as well as orientation of the investigator (Bachman, 2002, Borden & Banta, 1994). A construct is a postulated attribute of people reflected in a journalism and mass communication production performance assessment (Shepard, et. al., 1996, Borden & Banta, 1994). In radio/television and film production courses validation, the attribute that we make statements in interpreting a radio/television/ film production project is a construct. Thus, construct validity is associated with two distinctive approaches to performance assessment development: the construct-centered approach and the task-centered approach (Bachman, 2002). The task-centered approach has been favored over the construct-centered approach by some proponents of performance assessment (Shepard et. al., 1996). Bachman (2002) argues that performance assessment on a task-based production itself is the construct of interest, indicating that predictions to be made are about the adult learners' abilities to accomplish certain tasks. Therefore, task-based production performance assessment is regarded as one type of performance assessment where the construct of interest is task performance itself. Bachman (2002) argued that both task-centered and construct-centered approaches should be adopted in the performance-based radio/ television and film production design.

Social scientists developed a means of measuring attitudes, behaviors, emotions, and personalities. Some of these techniques include projects, interviews, assessments, and interpretations. Construct validity is the most rigorous validity assessment an instructor can use in radio/television and film production project. The concern for the classroom teacher is to know whether the completed project correlates with other related constructs in the anticipated manner (Shepard et. al., 1996). Gronlund and Waugh (2009) stated that construct validation is an attempt to clarify and verify the inference to be made from the production assessment results (p. 57).

### Increasing Assessment Reliability

Production assessment reliability refers to the consistency of scores learners would receive on alternate forms of the same production assessment. Reliability is the correlation of an item, scale, or instrument with a hypothetical one, which truly measures what it is supposed to. An assessment provides information about learners by using a specific measure of performance assessment at one particular time (Shepard et. al., 1996, Borden & Banta, 1994).

Only when the results from the production assessment are consistent over different occasions, different raters, or different tasks, then the confidence level in the results will be high and can be useful in improving a learner learning (Shepard et. al., 1996). Gronlund & Waugh, (2008) noted that unless the results are generalized over similar sample of tasks, time periods, and raters, we are not likely to have great confidence in them. The method for estimating reliability differs for project and performance assessments. Internal consistency, split-half reliability, project reliability and inter-rater reliability are used to estimate reliability. Though, instructor cannot expect perfect consistency from a result, because adult learners' memory, attention, fatigue, effort, and anxiety fluctuate, thus influence performance (Gronlund & Waugh, 2008). However, some assessments are more reliable than others and there are several strategies teachers can use to increase reliability: Assessments with more tasks or items typically have higher reliability (Popham, 2005). He argued that probability reasons influence classroom-learning assessment, such as in a short assessment, if a traditional learner or non-traditional learner does not understand one of the items in the assessment; the assessment result is very highly influenced. In contrast, in a longer assessment, if there is one item in the assessment that was confusing, the overall project would be influenced much less (Popham, 2005). An assessment should not be too long or too short but, on average, enough tasks should be included to reduce the influence of prospect discrepancy. Clear directions and tasks also help instructors to increase reliability. If the directions or wording of specific projects or items are unclear, then learners have to guess what they mean undermining the accuracy of their results. Finally, clear assessment criteria are crucial in ensuring high reliability and another way instructors can work to increase the reliability of their classroom learning assessments.

## **Findings**

The respondent noted that most educators work with non-traditional learner just as much as traditional learners. The findings suggest that traditional learners adapt better because of age appropriate and college environment as the key pedagogical behavior to the classroom learning assessment. The participants in the study had mixed feeling about the difference between pedagogy and andragogy classroom learning assessment. Some believe that the difference was on the fundamental resources provided to traditional or non-traditional learners.

The participants noted that fundamentals provided may have been the possible hindrances to learning from either pedagogy and andragogy perspective of learning theories. The participants believe that educators provide barrier-free environments that facilitate equal opportunities using classroom learning assessment interpretation. According to Knowles (1994), andragogy perceived adult learners as independent and self-directed learners and pedagogy perceives younger learners as dependant learners. Knowles (1994) finding confirms that there is a difference between pedagogy and andragogy, arguing that pedagogical behavior helps traditional learners adapt better to the classroom learning assessment in radio/television/film production courses. This study of andragogy in classroom learning assessment interpretation identified andragogical constructs in higher education learning setting. Findings suggested that andragogy impacts adult learners satisfaction in a non-traditional higher education setting compared to younger learners in a traditional higher education setting. Therefore, there are many adult learning settings yet to be studied. The study of classroom learning assessment in higher education to teaching radio/television/film production to a variety of higher education learning settings is intended to open up research opportunities. At present there is limited evidence supporting classroom-learning assessment in higher education, andragogy in radio/television/film production as the most appropriate principle of adult learning to determining adult learners' perspective. Additionally, there is limited analytical studies conducted in production courses of higher education learning, therefore the consistent and subsequent amount of analytical studies of classroom learning assessment interpretation in radio/television/film production will benefit the field of journalism and mass communication in higher education.

## **Recommendations**

The importance of classroom learning assessment interpretation in higher education in radio/television/film production is generally acknowledged, but it is not well understood across andragogical and pedagogical orientation. The identification of some key features of classroom learning assessment interpretation in radio/television/film production courses may open the way for a discussion of andragogy versus pedagogy behavior (Saunders, 1991). This author argued that there is a need for further theoretical development in respect of andragogy versus pedagogy behavior, which needs to take account of theories of intellectual and moral development, learners' stages of intellectual development, and the psychology of giving and receiving feedback in radio/TV/film production courses.

The author recommends that classroom learning assessment interpretation for adult learners may be either constructive or inhibitory towards teaching and learning radio/TV/film production and broadcast courses. This author recommends more research studies be conducted on classroom learning assessment interpretation in radio/television/film production in higher education with a focus on adult learners. The author suggests that more studies are needed on how research might contribute to the understanding of the development of the conflicting perception on pedagogic versus andragogic practice in radio/television/film and broadcast production (Saunders, 1991).

## **Conclusion**

Social scientists instructors in higher education use classroom learning assessment interpretation to measure attitudes, behaviors, emotions and personalities. Whatever the focus and format, the basic purpose of interpreting a classroom learning assessment is to determine what learners want and what the instructors need to teach. The student-centered teaching model challenges teachers to carefully use descriptive language in designing radio/TV/film projects for non-traditional learners. Instructors must develop dialogues with their adult learners that foster personal and professional growth. Obviously, the language of classroom learning assessment of adult learners in radio/TV/film courses must be caring and honest while providing constructive feedback that helps the non-traditional learner have a clear picture of their academic work in higher education. The instructors in radio/television/film production courses should design their production project learning assessment to provide barrier-free environments that facilitate equal opportunities by arranging reasonable accommodations in academic adjustments, auxiliary aids and services, training, consultation, and technical assistance to both non-traditional and traditional learner.

It is understood that at the end of every course in radio/television/film, instructors assign grades, which are intended to convey the level of achievement, skill and knowledge of each learner in the course. Also, in higher education grades are used to make decisions on adult learner level of achievement and grades can sometimes convey misinformation and lead an employer or the decision-maker astray. It is only when the instructor uses generally accepted policies and practices in assigning grades that are carefully formulated and reviewed periodically, then the grades can be used to make judgments or decisions on purposes for which they serve.

Instructors make distinction between components to evaluate and components used to determine course grades. The components used to determining course grades should reflect each adult learner's competence and experience inclusive in the course content. In higher education there is a strong feeling that adult learners who earns an "A" in a course should have a firm grasp of the skills and knowledge taught in that course compared to the traditional learner who earn an "A" in the same course. If an adult learner is merely marginal academically but very industrious and congenial, an "A" grade would be misleading and would render a blow to the motivation of the excellent adult learners in the radio/television/film program (Linn & Gronlund, 2000). Gronlund & Waugh, (2009) stated that the use of a criterion-referenced interpretation depends on the need. Criterion-referenced assesses documents on individual performance in relation to a domain of information or specific set of skills. The purpose of criterion-referenced assessment is to assess general development and a guide to subsequent instruction. The classroom learning assessments interpretation are used to guide the teacher through the phases of classroom learning assessment, planning, gathering, interpreting and using. An assessment should provide information about adult learners as well as traditional learner by using a specific measure of classroom assessment technique at one particular time. Only when the results from the classroom learning assessment interpretation are consistent over different occasions, different raters, or different tasks, then the confidence level in the results will be high and can be useful in improving adult learners learning. Gronlund & Waugh, (2009) noted that unless the results are generalized over a similar sample of tasks, time periods, and raters, we are not likely to have great confidence in them.

## References

- Airasian, P.W. (2000). *Assessment in the Classroom: A Concise Approach* (2nd ed.). Boston: McGraw-Hill.
- Aslanian, C.B. (2001). *Adult students today*. New York: The College Board.
- Ames, C. & Archer, J. (1988). Achievement goals in the classroom: students' learning strategies and motivation process, *Journal of Educational Psychology*, 80, pp. 260-267.
- Angelo, Thomas A. (1994). "Assessing and Improving Learning Where It Matters Most: A Brief, Hands-on Introduction to Classroom Assessment." A Workshop presented to participants in the SRIDC's 15th Annual Sharing Conference. Nashville, TN: Vanderbilt University.
- Angelo, T. A. & Cross, K. P. (1993). *Classroom Assessment Techniques: A Handbook for College Teachers*. 2<sup>nd</sup> ed. San Francisco. Jossey-Bass.
- Apps, J. W. (1981). *The Adult Learner On Campus: A Guide for Instructors And Administrators*. Chicago: Follett Publishing Company.

- Bachor, D.G. & Anderson, G.O. (1994). Elementary teachers' assessment practices as observed in the Province of British Columbia, Canada, *Assessment in Education*, 1, pp. 63-93.
- Bachman, L. (1990). *Fundamental considerations in language testing*. Oxford: Oxford University Press.
- Bachman, L. (2002). Some reflections on task-based language performance assessment. *Language Testing*, 19, 453-476
- Banta, Trudy W. (1993). *Making a Difference: Outcomes of a Decade of Assessment in Higher Education*. San Francisco: Jossey-Bass.
- Bol, L. and Strage, A. (1996). The contradiction between teachers' instructional goals and their assessment practices in high school biology courses, *Science Education*, 80, pp. 145-163.
- Borden, V.M.H. and Banta, T. W. (1994). *Using Performance Indicators to Guide Strategic Decision Making*. San Francisco: Jossey-Bass.
- Brookfield, S. D. (1986). *Understanding and Facilitating Adult Learning*. San Francisco: Jossey-Bass Publishers.
- Brookhart, S.M. (2001). 'Successful students' formative and summative uses of assessment information' *Assessment in Education*, 8(2), 153-169.
- Brookhart, S. M., & Bronowicz, D. L. (2003). "I don't like writing. It makes my fingers hurt": Students talk about their classroom assessments. *Assessment in Education*, 10(2), 221-241.
- Cross, K. P. (1981). *Adults as learners: Increasing participation and facilitating learning*. San Francisco: Jossey-Bass.
- Cranton, P. (2000). *Planning Instruction For Adult Learners*. Toronto: Wall & Emerson, Inc.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: SAGE.
- Cizek, G.J., Fitzgerald, S.M. & Racher, R.E. (1995). Teachers' assessment practices: preparation, isolation and the kitchen sink, *Educational Assessment*, 3, pp. 159-179.
- Dewey, J. (1952). *Experience and education*. New York: The Macmillan Company.
- Dirkx, J., & Prenger, S. (1997). *A guide for planning and implementing instruction for adults: A theme-based approach*. San Francisco: Jossey-Bass.
- Dogini, E., U (2012). *Effectiveness of School-Based Bullying Intervention Programs in Primary School* (Ph.D., Capella University (USA). Retrieved on November 30, 2014 from <http://proquest.umi.com.library.capella.edu/pqdweb>
- Driscoll, M. P. (2005). *Psychology of learning for instruction* (3rd ed.). Boston: Pearson
- Duschl, R.D. & Gitomer, D.H. (1997). Strategies and Challenges To Changing The Focus of Assessment And Instruction In Science Classrooms, *Educational Assessment*, 4, Pp. 37-73.
- Glaser, B. 2004. "Remodeling grounded theory". *The Grounded Theory Review: An International Journal*. 4: 1- 22.
- Goodmurphy, M., Branton, B., Callens, P. and Gedies, T., (2000). Andragogical and pedagogical differences relative to their interfacing with internet resources retrieved August, 10<sup>th</sup> 2014 from [cclp.mior.ca/ReferenceShelf/PDF\\_OISE/andragogicalpedagogicaldifferences.pdf](http://cclp.mior.ca/ReferenceShelf/PDF_OISE/andragogicalpedagogicaldifferences.pdf)
- Gronlund, N. E., & Waugh, C. K. (2009). *Assessment of Student Achievement* (9th ed). Upper Saddle River, NJ: Pearson Education.
- Gronlund NE, Waugh C. K. (2008). *Assessment of Student Achievement*. 9th ed. Boston: Allyn and Bacon.

- Gutek, G. (2004). Educational philosophy changes. Boston, Massachusetts: Pearson Custom Publishing.
- Hall, K., Webber, B., Varley, S., Young, V. & Dorman, P. (1997). A study of teacher assessment at key stage 1, *Cambridge Journal of Education*, 27, pp. 107-122.
- Huitt, W. (2009). Humanism and open education. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved August 12, 2014, from <http://www.edpsycinteractive.org/topics/affsys/humed.html>
- Kitchenham, A. (2008). The evolution of John Mezirow's transformative learning theory. *Journal of Transformative Education*, 6(2), 104-123.
- Knowles, M. (1984). The adult learner: A neglected species. Houston: Gulf Publishing,
- Knowles, M. (1989). The making of an adult educator: An autobiographical journey (1st ed.). San Francisco, CA: Jossey-Bass
- Knowles, M., Holton, E. F., & Swanson, R. A. (1998). The adult learner: The definitive classic in adult education and human resource development (5<sup>th</sup> ed.). Houston, TX: Gulf Publishing Company.
- Kroth, M., & Boverie, P. (2000). Life mission and adult learning. *Adult Education Quarterly*, 50(2), 134-149.
- Linn, R. L., & Gronlund, N. E., (2000). Measurement and Assessment in Teaching. Upper Saddle River, NJ: Merrill/prentice Hall.
- Lorsbach, A.W., Tobin, K., Briscoe, C. & Lamaster, S.U. (1992). An Interpretation of Assessment Methods In Middle School Science, *International Journal of Science Education*, 14, Pp. 305-317.
- Medrano, H. (2005). History of Constructivism. INSYS 527: Designing Constructivist Learning Environments. Retrieved August 4, 2014 from <http://halmedrano.com/527/foundations/index.html>
- Merriam, S. B. (2001). Andragogy and self-directed learning: Pillars of adult learning theory. *New Directions for Adult & Continuing Ed.*(89), 3-14.
- Merriam, S. B., and Caffarella, R. S. (1991). Learning in Adulthood: A Comprehensive guide. San Francisco: Jossey-Bass.
- Merriam, S. B., Caffarella, R. S., & Baumgartner, L. (2007). Learning in adulthood: A comprehensive guide (3rd ed.). San Francisco: Jossey-Bass.
- Mezirow, J. (1981). A critical theory of adult learning and education. *Adult Education*, 32, 3-23.
- Mezirow, J. (1991). Transformative dimensions of adult learning (1st ed.). San Francisco: Jossey-Bass.
- Mezirow, J. (2000). Learning as transformation: Critical perspectives on a theory in progress (1st ed.). San Francisco: Jossey-Bass.
- Ormond, J. E. (2008). Human learning (5th ed.). Upper Saddle River, New Jersey: Pearson Education, Inc
- Pijl, S.J. (1992). Practices In Monitoring Student Progress, *International Review of Education*, 38, Pp. 117-131.
- Pratt, D. D. (1993). Andragogy after twenty-five years. *New Directions for Adult and Continuing Education*, 57, 15 -23.
- Popham, W. J. (2005). Classroom Assessment: What teachers need to know. Boston, MA: Pearson.
- Rachal, J. R. (1994). Andragogical and pedagogical methods compared: A review of the experimental literature.
- Rachal, J. R. (2002). Andragogy's detectives: A critique of the present and a proposal for the future. *Adult Education Quarterly*, 52(3), 210.



- Radnor, H.A. (1994). The problems of facilitating qualitative formative assessment in pupils, *British Journal of Educational Psychology*, 64, pp. 145-160.
- Ramaprasad, A. (1983). On The Definition Of Feedback, *Behavioral Science*, 28, Pp. 4-13.
- Rudman, H.C. (1987). Testing And Teaching: Two Sides Of The Same Coin? *Studies In Educational Evaluation*, 13, Pp. 73-90.
- Sadler, R. (1989). Formative Assessment And The Design Of Instructional Systems, *Instructional Science*, 18, Pp. 119-144.
- Saunders, C. E. (1991). Pedagogy vs. andragogy: Are we treating our students like children? *Military Intelligence Professional Bulletin*, 17(1), 42.
- Schafersman, S. D. (1995). The History and philosophy of humanism and its role in Unitarian Universalist congregation of Butler Country, Oxford, Ohio.
- Schilling, M., Hargreaves, L., Harlen, W. & Russell, T. (1990). *Written Tasks* (London, Paul Chapman).
- Shepard, L.A (1995). Using assessment to improve learning, *Educational Leadership*, 52(5), pp. 38-43.
- Shepard, L.A., Flexer, R.J., Hiebert, E.J., Marion, S.F., Mayfield, V. & Weston, T.J. (1994). Effects of introducing classroom performance assessments on student learning, in: *Proceedings of Annual Meeting of AERA Conference*, New Orleans: Available from ERIC ED 390918.
- Shepard, L.A., Flexer, R.J., Hiebert, E.J., Marion, S.F., Mayfield, V. & Weston, T.J. (1996). Effects of introducing classroom performance assessments on student learning, *Educational Measurement Issues and Practice*, 15, pp. 7-18.
- Senk, S.L., Beckman, C.E. & Thompson, D.R. (1997). Assessment And Grading In High School Mathematics Classrooms, *Journal For Research In Mathematics Education*, 28, Pp. 187-215.
- Stiggins, R. J. (2001). *Student-Involved Classroom Assessment*. 3rd ed. Upper Saddle River, NJ: Prentice-Hall, Inc
- Stiggins, R.J., Griswold, M.M. & Wikelund, K.R. (1989). Measuring Thinking Skills through Classroom Assessment, *Journal of Educational Measurement*, 26, Pp. 233-246.
- Tennant, M. & Pogson P. (1995). *Learning And Change In The Adult Years: A Developmental Perspective*. San Francisco: Josey-Bass.
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human Resource Development Review*, 4(3), 356-367.
- Torrie, I. (1989). Developing achievement based assessment using grade related criteria; *Research in Science Education*, 19, pp. 286-290.
- Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999-2005). *International Journal of Lifelong Education*, 26(2), 173-191.
- Taylor, E. W. (2008). Transformative learning theory. *New Directions for Adult & Continuing Education* (119), 5-15.
- Vygotsky, L. (1978). *Mind in society: Development of higher psychological processes*. Cambridge, MA. Harvard University Press.
- Weiner, I. B., Freedheim, D. K., Graham, J, R., Naglieri, J. A., (2003). *Handbook of Psychology: Assessment psychology*; retrieved on May 26, 2010 from [www.digento.de/titel/104450.html](http://www.digento.de/titel/104450.html)
- Winnie P.H, Belfry M.J. (1982). Interpretive problems when correcting for attenuation. *Journal of Education Measure* 19: 125–134